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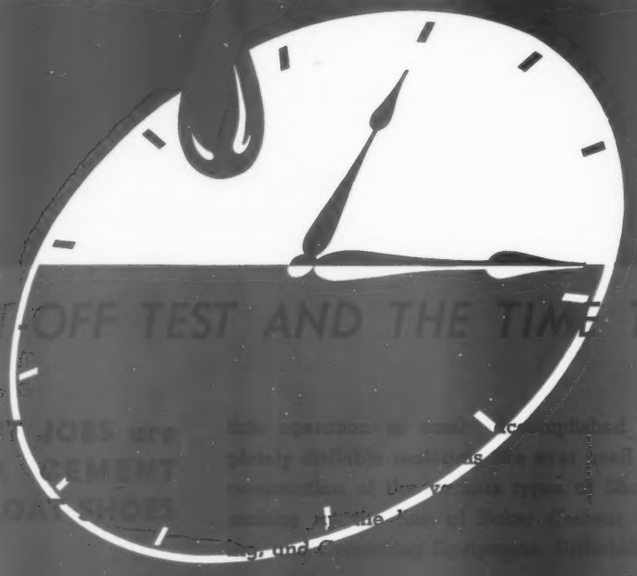
A "GOOD" CEMENT JOB WILL STAND *TWO* TESTS



THE WATER SHUT-OFF TEST AND THE TIME TEST . . .

. . . And "GOOD" CEMENT JOBS are ROUTINE with BAKER CEMENT WASH-DOWN WHIRLER FLOAT SHOES

HERE'S WHY:

"GOOD" cement has had its water content reduced immediately because suspension . . . it must move its full column of mud and then displace the mud in the annulus. The only way it will ever dry is for a portion of the water in the cement to have been allowed to escape around the shoe and for a maximum distance up the hole. That's the kind of a cement job that the Baker Cement Wash-Down Whirler Float Shoe forces. It allows the water to escape around the casing) permeable . . . it allows the maximum distribution of the cement slurry with the lowest possible pumping pressure . . . it allows the cement to set up quickly after the cement job is completed and it is there to stay and not the Shoe.

YOU CAN BE SURE OF THESE RESULTS WITH A

BAKER CEMENT WASH-DOWN WHIRLER FLOAT SHOE

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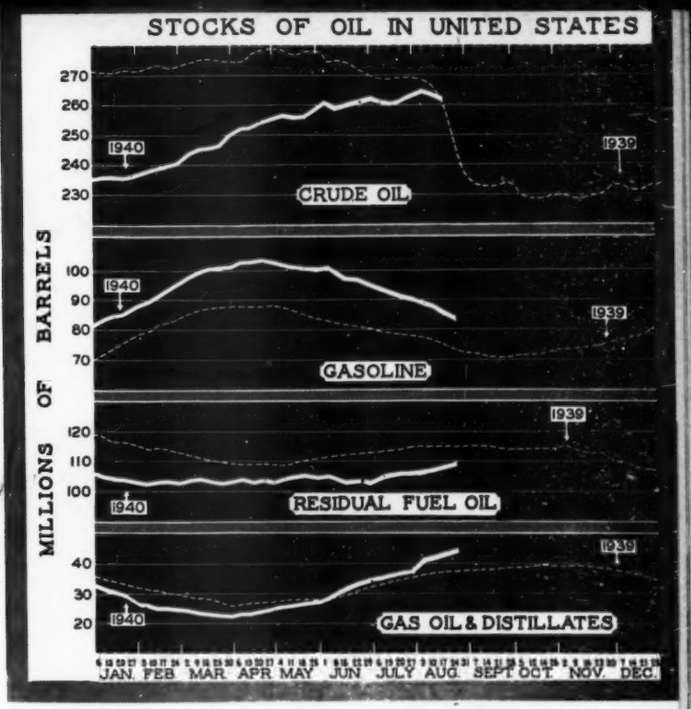
Trends

Recommend Production 5 Per Cent Less Than Demand in September



WITH a general feeling that the industry has made progress over the past 30 days in adjusting its producing and refining operations to meet both emergency and long-range conditions, operators are now looking forward to the developments of a new month which starts Sunday. There is agreement that the curtailment in crude production and refinery operations which got under way in late July should continue through September and later if the industry is to have its house in order for a satisfactory last quarter and also get away to a good start in 1941.

CRUDE PRODUCTION *3,514,452 bbl. daily average—down 16,191 bbl. One year ago 1,445,494 bbl.*

CRUDE STOCKS *263,425,000 bbl. as of August 17—down 182,000 bbl. One year ago 262,486,000 bbl.*

GASOLINE STOCKS *85,770,000 bbl. as of August 24—down 671,000 bbl. One year ago 73,756,000 bbl.*

RESIDUAL FUEL-OIL STOCKS *108,021,000 bbl. as of August 24—up 86,000 bbl. One year ago 115,595,000 bbl.*

GAS OIL AND DISTILLATES *43,931,000 bbl. as of August 24—up 1,062,000 bbl. One year ago 37,036,000 bbl.*

REFINERY RUNS *3,485,000 bbl. daily week ended August 24—down 25,000 bbl. One year ago 3,475,000 bbl.*

The Bureau of Mines estimate of domestic crude demand next month is 3,624,300 bbl. Statisticians at the Oklahoma City meeting of the Interstate Oil Compact Commission and elsewhere agree that the best interests of the industry will be served if actual daily output for the month is at least 5 per cent under this estimate.

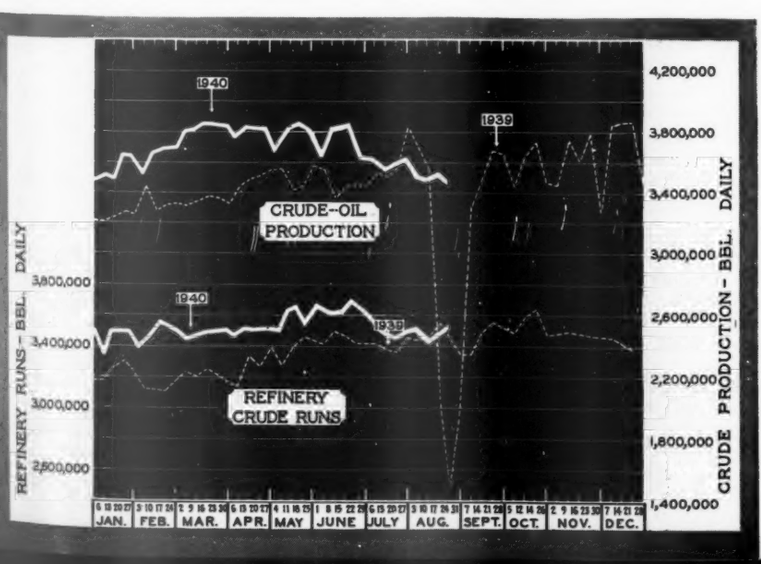
In regard to gasoline it is pointed out that while a record September domestic consumption is assured, export shipments may be at the low point of the year. No improvement in the movement of gasoline products to Europe and adjoining areas is in prospect at this time. Competition with South American and Netherland West Indies sources of supply for the European business, now largely confined to Great Britain, is becoming increasingly keen. The same situation applies to the export movement to South America and parts of the Eastern Hemisphere not included in the war areas. The statisticians also stress the necessity of continued large withdrawals from gasoline stocks through September in several refining centers.

While some improvement has been apparent in the gasoline market tone of the Mid-Continent and Middle West recently, the Gulf Coast and East Coast still have excess supplies which are a burden to the market. The situation is particularly acute at several points along the Atlantic seaboard. Spot cargoes from the Gulf, which normally would have been absorbed in export channels, are being sent to these eastern points at low delivered prices. The fact that tanker rates on these shipments are now under 20 cents per barrel is an important factor in this condition.

Those in closest touch with coastal operations feel that these conditions will gradually right themselves over the next 30 to 60 days, provided an expanded crude production in Texas and elsewhere does not force additional quantities on the market. Due to this situation considerable importance attaches to the action of state regulatory bodies in establishing September allowables. The Louisiana allowable is the same as the B. of M. recommendations with the Arkansas allowable slightly in excess of the estimated demand.

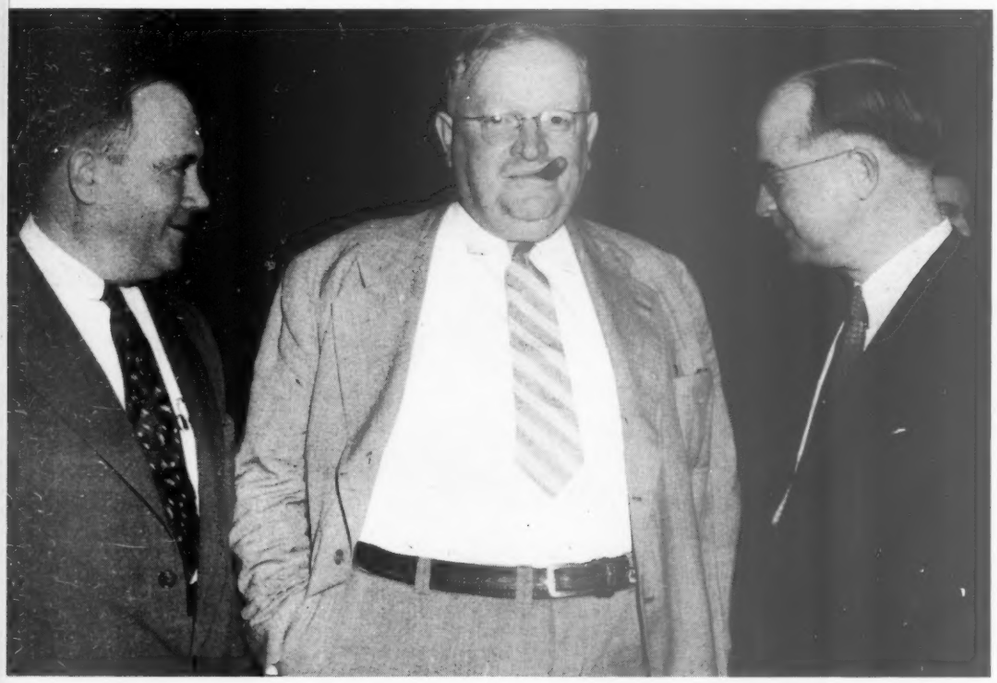
DAILY AVERAGE PRODUCTION FOR WEEK

	Aug. 24, 1940	Bur. Mines Aug. est. of demand	Aug. state allowables	Aug. 17, 1940
Arkansas	73,915	65,200	73,000	73,610
California	617,250	598,400	587,000	635,250
Eastern states	103,600	102,900	.....	103,400
Illinois	381,300	440,600	.....	392,700
Kansas	181,800	166,800	170,607	187,000
Louisiana	273,810	276,100	274,620	278,410
North Louisiana	*65,110*	.....	.....	*64,160*
Louisiana Gulf Coast	*208,700*	.....	.....	*214,250*
Michigan	53,714	57,100	52,000	54,246
Mississippi	19,061	10,300	.....	14,290
New Mexico	102,360	105,200	102,000	101,840
Oklahoma	407,300	402,600	390,000	402,475
Rocky Mountain states	100,010	106,100	.....	94,984
Texas	1,200,332	1,326,400	1,194,943	1,192,438
East Texas	*374,848*	.....	.....	*374,896*
West Texas	*195,346*	.....	.....	*194,250*
North Central Texas	*122,100*	.....	.....	*120,200*
East Central Texas	*71,400*	.....	.....	*71,947*
Texas Panhandle	*67,746*	.....	.....	*65,798*
Gulf Coast Texas	*282,595*	.....	.....	*280 397*
Southwest Texas	*86,297*	.....	.....	*84,950*
United States	3,514,452	3,657,700	.....	3,530,643


REFINERY RUNS – BBL. DAILY
CRUDE PRODUCTION – BBL. DAILY
CRUDE-OIL PRODUCTION
REFINERY CRUDE RUNS
1940
1939
JAN. FEB. MAR. APR. MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC.

Industry Capable of Meeting Any Emergency Demand

By H. STANLEY NORMAN



J. C. Hunter, of Abilene, new Texas member of the Interstate Oil Compact Commission; Gov. Leon C. Phillips of Oklahoma, chairman, and E. O. Thompson, whose seat on the commission was assigned to Mr. Hunter

OKLAHOMA CITY, Okla., Aug. 23.—Unqualified adequacy of the American petroleum industry to meet any contingencies of demand was expressed by two speakers at the regular quarterly meeting of the Interstate Oil Compact Commission held here today. Declarations of the industry's qualifications covered not only the elementary question of reserves but the ability to convert raw material into whatever products are necessary and the ingenuity to make them available at whatever points emergencies may dictate.

Robert E. Wilson, president of Pan American Petroleum & Transport Co., now petroleum technician on the staff of the National Defense Advisory Commission, and W. R. Boyd, Jr., executive vice president of the American Petroleum Institute, were the men who declared the industry's sufficiency.

The studied opinions of Dr. Wilson were conveyed in a letter to the Interstate Oil Compact Commission. Duties in connection with the defense program prevented his attendance at the meeting.

The petroleum industry is not only prepared to meet any emergency demands for motor fuel and lubricating oil but, Dr. Wilson declared, is likely to be called upon for synthetic rubber and toluene, the basic ingredient for TNT. Construction of plants for recovery of refinery gases which form the base material in synthetic rubber and toluene are already under construction by private companies as individual enterprises and under auspices of the Government.

Complete ability of the petroleum industry to meet all real and potential demands eliminates all necessity for rearranging direction of the business, according to the extemporaneous and informal expressions of oil men made to the Compact Commission. Specific recommendation that cooperating oil-producing states reduce crude production 5 per cent below estimates of market demand for the next 4 months to prevent waste in a time of national emergency was made in a resolution adopted by the Compact Commission. The resolution was the indirect result of statistical reviews presented by three separate agencies. Crude-oil demand over the next 6 months was estimated at 3,500,000 to 3,580,000 bbl. in the extremes of the three reports and the third figure was at a range of 3,500,000 to 3,525,000 bbl. net daily.

Propose Extension of Duties

Extension of activity to include legal, engineering and regulatory aspects of the commission's physical-waste program was proposed in a resolution submitted by Arthur Schoeppel, representative from Kansas. Mr. Schoeppel suggested creation of a general committee composed of one member from each of the compacting states which would direct the functions of three subcommittees made up as far as practical from staffs of the various state regulatory bodies.

The legal subcommittee would look into the problem of uniform conservation laws for the compacting states and would be authorized to work toward such a goal. A practical application of this nature may be offered in about a year when the Texas conservation law expires of its own limitations. Informal groups at the Oklahoma City compact meeting discussed the possibility of submitting a model conservation law to the Texas Legislature when necessity arises next year to enact a new statute. Oil men point to the petroleum-conservation laws in New Mexico, Louisiana and Mississippi as evidence that progress is being made in the objective of simple, efficient and near-uniform laws.

The compact subcommittee on engineering practices would investigate the progress made in the various member states and seek to extend the desirable features across state lines.

The regulatory-practice subcommittee would study such matters as methods of determining potentials, assignment of allowables and related issues. As suggested in Mr. Schoeppel's resolution there would be an overlap of ground covered by the engineering and regulatory practice subcommittees but the combined field offers such extensive possibilities that internal adjustments could be made by the individual bodies.

Quick Adjustments Imperative

The urgent desirability of quickly correcting all maladjustments within the industry was stressed by all speakers addressing the commission. The thought was uppermost in the minds of company executives and state officials present that the emergency nature of the times make it essential to correct any ills besetting the petroleum industry speedily and effectively. Particular emphasis on the time element was made by J. C. Hunter, of Abilene, Tex., newly appointed Texas representative on the commission; Frank Buttram, president of the Independent Petroleum Association of America, and George C. Hill, director of the A.P.I. and president of the Houston Oil Co., Houston, Tex., who was asked to comment on the remarks of Dr. Wilson regarding the industry's relation to national defense.

A warning that apparent temporary success of the totalitarian method of doing things should not influence the Government and the oil industry to shift its direction in this country was sounded by Mr. Hill.

"I do not believe," declared Mr. Hill, "that you can pick up a man of varying competence, cloak him with federal authority and thereby give him supercompetency."

After listening to the various assertions on the complete adequacy of the petroleum industry to meet whatever emergency requirements develop, Gov. Leon C. Phillips of Oklahoma, chairman of the commission, made one of the few remarks his health permitted at the meeting. The chairman said that he found much satisfaction in learning that the oil industry is still able to function in case of emergency without bureaucratic control "which has all but ruined the agricultural industry in Oklahoma."

George A. Wilson, attorney for the Louisiana Department of Conservation, reported that a bill authorizing participation had been passed by the legislature. He said that Louisiana is making a serious effort to achieve true conservation and attempting to fairly and equitably distribute production within the state. Hope was expressed that Louisiana would become a member.

H. M. Morse, supervisor of oil and gas operations

in Mississippi, said that his state would probably become a member in the near future.

"One of the most gratifying features of my work in the petroleum section of the National Defense Advisory Commission," wrote Dr. Wilson, "is the fact that our country, in striking contrast to all the warring nations, need have little concern as to the overall adequacy of its supplies of crude petroleum.

"Those states which have pursued sound conservation policies have, of course, far greater ability to meet the demands of a war emergency than those states which have permitted uncontrolled and wasteful production to leave them with uncertain and probably declining supplies just when they might be most useful.

"As to the probable effect of defense activities and programs on our crude-petroleum requirements, it will apparently be a good many months before gradually increasing demand offsets the heavy loss of export markets which the industry has suffered. Demand for the heavier crudes will probably increase more rapidly than those for lighter, and later there will be need for increased allowables for those crudes yielding high-octane aviation gasoline, possibly with correspondingly decreased demand for other crudes.

"Regarding matters of defense which need individual study and action by the industry, somewhat better fire protection for tank farms and various protective measures for important pipe lines and refineries appear to be desirable. The building by the industry of crude and gasoline pipe lines where they will decrease shipping requirements, especially along the Atlantic Coast, would seem to be desirable from a defense viewpoint. Serious consideration should also be given to burying any new construction of storage tanks at important ocean terminals.

No Serious Bottle Necks

"Analysis of the large and varied requirements of the Army and Navy for petroleum products indicates no serious bottle necks providing the industry continues to expand to meet its ever-growing demands. A program of building substantial government-owned stocks of 100-octane aviation gasoline has been recommended and will probably be undertaken very shortly.

"As a matter of fact, not only will the industry be able to take care of all probable demands for its products, but it will be called upon to help eliminate bottle necks in other industries—in particular the production from petroleum, by recently developed synthetic processes, of synthetic rubber and toluene for TNT.

"In closing may I emphasize the importance to our national welfare of the efficient cooperation of state agencies, such as those cooperating in the interstate compact. In my opinion Washington has more than enough problems at present without having to assume additional responsibilities so long as they can be adequately handled through decentralized agencies."

Much of the ground covered by Dr. Wilson's summation of the petroleum industry's adequacy to meet the emergencies of defense was touched upon in Mr. Boyd's address.

"If war again should involve the United States," said Mr. Boyd, "the American people may have the satisfaction of knowing that they would enter a conflict with the largest and most capable petroleum industry, the greatest reserves, and the most extensive productive facilities of any nation in the world. The productive and service capacities of the American industry are many times greater than in 1917. There will be some need for coordination and for inaugurating systems of refining, distribution and transportation adapted especially to wartime needs, but otherwise the industry is prepared for emergency service."

"In view of what I have said," declared Mr. Boyd, "you will surmise at least that it is my considered judgment that the Government—and by Government I mean the executive (including the administrative and defense-planning agencies) and the legislative branches of federal Government—and the American public need not do any worrying over the possibility of a failure of having adequate natural crude-oil production to meet all the national, industrial and civilian requirements in time of peace or war or for many years to come. Nor should they be concerned about the industry's ability to augment the supply of well oil through the prompt production of substitutes from coal and oil shale, whenever in time of peace or war it is economically desirable or otherwise necessary to do so. Neither do I think the time will ever come when the consumer will find dislocation of his supply nor that the price he will have to pay will be exorbitant. . . .

". . . Fundamentally, our problem is the intelligent, wise and prudent development and economic, businesslike handling of the abundant resources we possess in the best interests of the public and of ourselves."

State Regulation the Answer

Inability of the petroleum industry to deal with problems that occasionally throw economic gears out of mesh is partially offset, Mr. Boyd said, by enactment of conservation laws by the states and their wise administration.

Praise of the Compact Commission as providing a forum for discussion of the petroleum industry's problems and constituting about the only safe place for oil men to meet for such a review was given by Judge Hunter. He, among others, called for sharp attention to the time factor. Time is the most important element in gearing industry of the United States to defense requirements and the same thing applies to the petroleum industry, Mr. Hunter said. If we are going to solve our (oil) problems we must do so in a reasonable time.

In the three statistical reviews presented, uniform stress was placed on the desirability of maintaining refinery operations on a basis of relatively high fuel-oil yields. Fred Van Covern, director of the A.P.I. statistical department, forecast that net crude-oil demand over the next 6 months will be between 3,500,000 and 3,525,000 bbl. daily to attain a gasoline-inventory objective of 85,000,000 bbl. on March 31, 1941.

Harold B. Fell, executive vice president of the I.P.A.A., presented a report by the organization's committee on balance of supply with demand. The committee called for a substantial reduction in motor-fuel inventory in the last 4 months of the year and recommended production of not more than 3,500,000 bbl. daily with 2,930,000 bbl. of the total assigned to the area east of California.

In a short review of the first 6 months and a general forecast for the next 6 months, George R. Hopkins, acting chief of the Petroleum Economics Division of the Bureau of Mines, suggested that a top figure of 3,580,000 bbl. daily for the period would make possible desirable adjustments in product inventories.

In his conclusions on the statistical outlook Mr. Van Covern predicted that domestic demand of motor fuel will probably increase 5.5 to 6 per cent during the last quarter of this year and the first 3 months of 1941. Exports, he believes, may be down as much as 45 per cent, leaving total demand only 3 per cent greater. Minimum motor-fuel stocks on March 31, 1941, in order to operate conveniently and economically should be 85,000,000 bbl., in Mr. Van Covern's opinion. In order to attain the goal of 85,000,000 bbl. of finished and unfinished gasoline on next March 31, Mr. Van Covern holds that crude oil runs to still must be held to not more than 3,400,000 bbl. daily during the entire period. Losses and other uses of crude will bring the net demand forward to 3,500,000 or 3,525,000 bbl. daily.

Large Refineries Guilty

The large refining units in the industry were blamed for much of the unfavorable statistical picture by the I.P.A.A. In the Texas Gulf Coast area, the I.P.A.A. group pointed out, after calling attention to the concentration of excessive gasoline stocks, nine large oil companies control 83 per cent of the refining capacity. In the Indiana-Illinois-Kentucky area, 11 companies control 78 per cent of the refining, and in the East Coast area, 11 companies control 98 per cent of the refinery output. "It can not be questioned," the report added, "that proper adjustment of operations of these companies could have avoided the accumulation of these stocks."

F. S. Lott, from the Bureau of Mines experimental station at Bartlesville, Okla., read the report of Mr. Hopkins in which distillate-fuel-oil stocks on October 31 were projected to reach 47,000,000 bbl. The bureau's calculation of crude demand through the next 6 months of 3,580,000 bbl. daily was based on extension of the current refinery yields of fuel oil and gasoline. Distillate-fuel-oil stocks on May 30, 1941, probably will have declined to 25,000,000 bbl. on the projection of the Bureau of Mines program.

Declining production in Illinois and the lack of any development to arrest this trend were related by Dr. Walter H. Voskuil, economist of the Illinois Geological Survey organization. He said that the Trenton offers the best prospect for deeper production in the newer fields which have passed their flush peaks from shallower pays. The Trenton, he said, is so far of questionable productivity and even if it is proved attractive development will be on a conservative scale because of the drilling costs involved.

P. J. Hoffmaster, chief of the Michigan Conservation Division, advocated a more aggressive extension of the Compact Commission's influence but did not elaborate in the open meeting.

Interstate Compact Highlights

Ability of the oil industry to meet any emergency demand was the highlight of the Interstate Oil Compact Commission meeting in Oklahoma City, August 23. This fact was uniformly expressed by high officials of the industry and producing states.

Statistics, though presenting a picture short of the industry's goal, show sufficiency of inventories to satisfy any national defense requirements. The commission passed a resolution calling for a reduction of 5 per cent in the crude-oil production from cooperating states.

Three statistical reports urged refiners to hold their overall crude consumption over the next 6 months to a range of 3,500,000 to 3,580,000 bbl. daily.

Representatives of Mississippi and Louisiana expressed possibility that those states may soon join the seven now members of the compact.

Subcommittees were recommended for the study of legal, engineering, and proration practice aspects of conservation.

East Indian Oil Reserves Attractive to Japanese

By H. STANLEY NORMAN

Japan, normally the second largest customer for United States petroleum exports, has long desired the oil reserves of the Netherland East Indies. Obstacles to Japanese trading in this country have made the East Indies' fields and refineries doubly attractive in recent months.

This review and accompanying map reveal the latest available information on the Netherland East Indies petroleum resources, distribution, and refining. Distance of Japan from other adequate supplies and the relation of this question to Nipponese designs on the East Indies are a feature of the map.

A DECLINE of more than 50 per cent in Japanese petroleum purchases in this country in August increases the possibility that the Netherland East Indies' oil reserves will become to the Nipponese an irresistible prize.

Attractiveness of the East Indies' petroleum industry including producing fields, pipe lines, refineries and terminals is most convincingly depicted by the map accompanying this discussion. The East Indies are approximately 50 per cent nearer than any other adequate petroleum supply available to Japan and distance alone constitutes one of the major attractions.

For all practical purposes the Netherlands empire was dismembered when the homeland fell before the invasion of Germany, leaving the components, including the East Indies, to protect themselves with whatever help the foreign policies of other nations may afford.

East Indian production averages almost 190,000 bbl. daily, including the output from parts of the island under British control and the refining capacity, shown in Table 3, is 180,000 bbl. daily. Petroleum exports from the Netherland East Indies in 1939, according to data from the U. S. Bureau of Foreign and Domestic Commerce, totaled 48,325,000 bbl. The figures do not include British possessions in the islands and, for the sake of analysis, it may be assumed that parts of the islands under the English flag will be unmolested by Japan as long as Germany can be repulsed.

Distribution of Netherland East Indies' petroleum is shown by countries in Table 1. Singapore is the largest single recipient port of the East Indian oil and shipments to that destination go largely to supply demand of British naval vessels and to the fueling of merchantmen now seriously restricted in their movements.

TABLE 1—DISTRIBUTION OF NETHERLAND EAST INDIES PETROLEUM, 1939, IN BARRELS

Destination—	
France	334,000
United Kingdom	169,000
United Kingdom for orders	220,000
Netherland West Indies	332,000
Egypt and Sudan	1,226,000
Union of South Africa	652,000
Suez for orders	418,000
Port Sudan for orders	226,000
Ceylon	615,000
Aden	226,000
British Malaya	917,000
Indochina	810,000
Penang	116,000
Singapore	11,738,000
Hong Kong	781,000
China	1,242,000
Japan	1,982,000
India, British	349,000
Chosen	115,000
Taiwan (Formosa)	196,000
Thailand (Siam)	58,000
Dairen	43,000
Philippine Islands	1,438,000
Australia	6,358,000
New Zealand	1,634,000
Poeloe Bintan (Riouw)*	6,609,000
Poeloe Samboe*	5,751,000
Poeloe Sabang	431,000
Supplies of vessels	2,552,000
Other	787,000
Total	48,325,000

*Islands off Sumatran coast used for storage and transshipment.

Discontinuance of the trade arrangement with Japan early this year and the more recent prohibitions on exportation of aviation gasoline have cut deeply into petroleum shipments from California. Offshore movement of California petroleum has dropped to about 97,500 bbl. daily, according to estimates for the first 2 weeks of August by the Oil Producers Agency of California. The early August exports from California represent a decline of more than 40,000 bbl. compared to a July average of 140,600 bbl. daily. The figures for both July and the early part of August include shipments to the eastern coast of the United States, which are more or less uniform at 500,000 to 525,000 bbl. per month.

The changing trend in California exports is a fairly accurate index to the contraction of petroleum supplies available to Japan from the Western Hemisphere. Since expropriation of private oil properties in Mexico 2½ years ago there have been occasional shipments from Tampico to Japan. The round-trip distance of more than 18,000 miles between Yokohama and Tampico discourages extensive expansion of the petroleum trade between Mexico and Japan.

At this point the remote possibility that a pipe line may be constructed across the Isthmus of Tehuantepec terminating on the western coastline of Mexico at Salina Cruz becomes important. Construction of 150 miles of pipe line from the Atlantic coastline of Mexico, along which all important producing fields are located, to Salina Cruz would reduce by approximately 6,000 miles the 18,000-mile round trip between Yokohama and Tampico. Shortening the distance between Mexican oil supplies and Yokohama to a round trip of 12,000 miles would supply Mexico with a much-needed customer and Japan with an equally needed supplier. The State Department looks with disfavor on construction of the Mexican pipe line which would enhance Japan's petroleum supplies and vigorously insists that Japan refrain from extending its influence in Asia.

The Japanese tanker fleet consists of approximately 40 vessels with capacity of 530,000 tons. The ocean transportation capacity of Japanese oil vessels has been built over a period of years to the approximate requirements of consumption of California oil. An abrupt turn to petroleum supply sources more than double the distance from normal loading points presents a set of circumstances physically beyond Japan's capabilities. The only alternative immediately available to Japan is development of petroleum supplies within its transportation limitations and beyond the restrictions imposed by the United States. Japan is not equipped from a standpoint of finances or materials to double its tanker fleet capacity within time limitations.

The only alternatives offering a solution to Japan's petroleum demands are removal of United States export restrictions or acquisition of supplies from the Netherland East Indies.

The tanker route distance of 2,700 miles from Yokohama to Balik Papan, oil port on the eastern coast of the island of Borneo, and 3,000 miles to the Sumatran refining and terminal port at Palembang, constitute a real attraction for Japan. The distance from Yokohama, center of the Japanese refining industry, and San Francisco is 4,536 miles. In addition to the attraction Netherland East Indies' petroleum holds for Japan in proximity there is the added incentive to seize the supply while successful defense is doubtful. In peacetimes the combined power of the British and United States Pacific fleets would constitute a completely adequate buffer against Japanese territorial ambitions. With Italy and Germany engaging the full attention of the British fleet and the power of the United States fleet decentralized by patrol of neutrality zones Japan faces a weakened barrier.

British Dependent

The British interest in maintaining the status quo of Netherland East Indian petroleum affairs goes beyond the fact that its subjects have extensive financial interests in the main operating company. Important sections of the British Empire in the Far East are dependent on the East Indies for their petroleum requirements. Among the chief consumers of East Indian petroleum are Australia and New Zealand which received 6,358,000 and 1,634,000 bbl. Some of the oil from the Netherland East Indies going to ports on the nearby islands is eventually transshipped to parts of the British Empire or consumed in Pacific naval operations. A considerable business in transshipment of Netherland East Indian petroleum to Japan is carried on which clouds the full extent of the business done by British and American companies with Tokyo.

Only 1,982,000 bbl. of petroleum was shipped directly from the Netherland East Indies to Japan in 1939, according to information reaching the Department of Commerce from its trade attaches in Batavia. The average of 5,430 bbl. daily disclosed in available information as the extent of petroleum trade between the Netherland East Indies and Japan is considerably short of the actual

traffic, but just how much short is difficult, if not impossible, to trace.

In the first quarter of this year petroleum exports from Netherland East Indian ports totaled 11,075,000 bbl., an average of 121,700 bbl. daily, compared with 127,000 bbl. daily for the 3 months immediately preceding the European war outbreak. The comparative exports for the two periods are shown in Table 2.

TABLE 2—NETHERLAND EAST INDIES EXPORTS
(First 3 Months, 1940)

Product—	January	February	March
Crude oil	78,000	135,000	125,000
Gasoline	1,531,000	1,348,000	1,759,000
Kerosene	619,000	465,000	573,000
Distillate fuel	603,000	847,000	767,000
Bunker oil*	877,000	1,173,000	1,165,000
Total	3,708,000	3,968,000	3,399,000

Prewar Quarter, 1939

Product—	June	July	August
Crude oil	52,000	73,000	60,000
Gasoline	1,813,000	1,467,000	1,665,000
Kerosene	609,000	500,000	535,000
Distillate fuel	687,000	734,000	591,000
Bunker oil*	899,000	1,176,000	822,000
Total	4,060,000	3,950,000	3,673,000

*Includes crude and bunker oil from Tarakan.

De Bataafsche Petroleum Mij., subsidiary of the Royal Dutch-Shell group, and Nederlandsche Koloniale Petroleum Mij., subsidiary of the Standard-Vacuum Oil Co., are the two important producers and refiners in the Netherland East Indies. As can be seen in the list of refineries shown in Table 3, the two concerns, along with other subsidiaries of the Dutch-Shell, control 100 per cent of the processing capacity, totaling 180,000 bbl. of crude daily.

TABLE 3—FAR EASTERN PETROLEUM REFINERIES

Company and location—	Capacity— Crude	Cracking
BORNEO		
De Bataafsche Pet. Mij., Balikpapan	35,000	7,400
JAVA		
De Bataafsche Pet. Mij., Wonokromo	2,500	.....
De Bataafsche Pet. Mij., Tjepoe	14,000	600
Nederlandsche Koloniale Pet. Mij., Kapoen	500	.....
SARAWAK		
Sarawak Oilfields, Ltd., Lutong	20,000	.....
SUMATRA		
De Bataafsche Pet. Mij., Pangkalan	18,000	.....
De Bataafsche Pet. Mij., Palembang	45,000	2,500
Nederlandsche Koloniale Pet. Mij., Palembang	45,000	18,000
Total, East Indies	180,000	28,500
INDIA (British India and Burma)		
Assam Oil Co., Ltd., Digboi	6,000	2,100
Attock Oil Co., Ltd., Rawalpindi	4,000	2,500
British Burmah Pet. Co., Ltd., Rangoon	2,500	2,000
Burmah Oil Co., Ltd., Rangoon	20,000	3,000
Indo-Burmah Pet. Co., Seikgri	3,500	1,000
Indo-Burmah Pet. Co., Kindat	500	.....
United Refineries, Ltd., Thilwa	500	.....
Total	37,000	10,600

Note: Japan has a total of 17 refineries with combined crude capacity of 52,600 bbl. daily and cracking capacity of 16,250 bbl. daily.

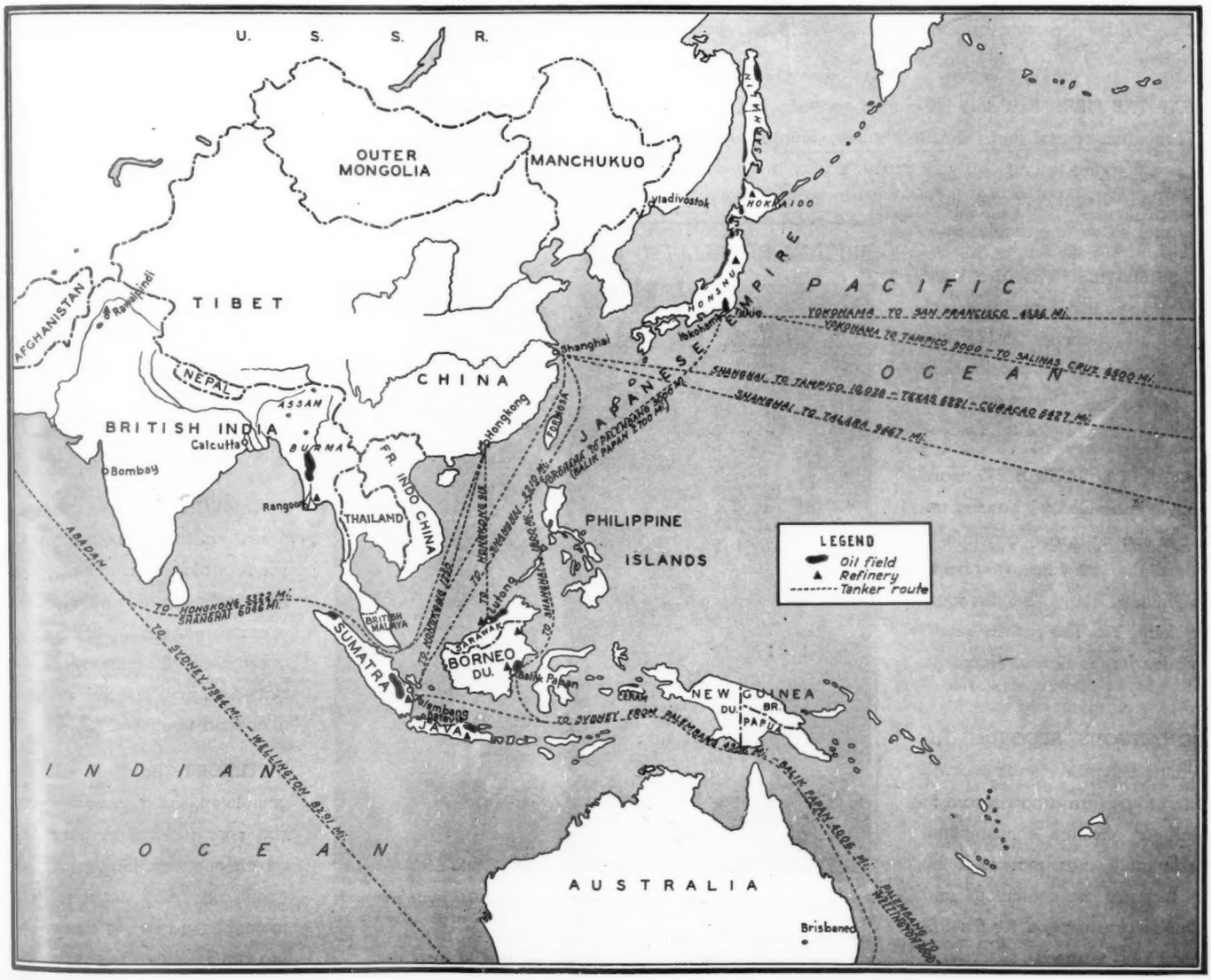
Japan produces the insignificant amount of 7,250 bbl. of crude oil daily, mostly from the south halt of Sakhalin which is operated under a long-term lease with Soviet Russia. Smaller amounts of crude are produced on the islands of Hokkaido, Honsnu and Formosa. Transportation costs and necessity of payment for external petroleum in strong currency makes the indigenous supplies considerably more valuable to Japan than world-oil market averages would indicate.

Regulation of United States petroleum exports have reduced the sales of California oil to Japan approximately 50 per cent. In July, California petroleum exports to Japan totaled 2,269,600 bbl., a daily average of 73,200 bbl. The shipments consisted of 1,315,300 bbl. of crude oil, 33,500 bbl. of gasoline and 920,800 bbl. of fuel oils.

California oil shipments to Japan for the first half of August were off more than 50 per cent, dropping to a daily average of 23,700 bbl. in the second week of August and averaged only 36,500 bbl. for the first 10 days of the month.

Part of the decline was attributed to lack of detailed information on export restrictions and the creations of misunderstandings in the minds of customs officials. More specific instructions have since ameliorated the restrictions.

Short tanker haul whets Japanese interest in Netherland East Indies petroleum operations



SPARKS . . . FROM THE NEWS

DEMONSTRATION: If anyone doubts a willingness of the oil industry to cooperate in national defense he should go to Washington and learn how refiners are placing their research, development and operating departments at the call of the military.

SILVER LINING: The oil industry isn't satisfied with its statistical picture, but one thing is sure: there is abundant petroleum to meet emergency requirements. Not a bad defense against a death-dealing thrust from Washington.

RIGHT, COLONEL: "This is no time for pouting," declared E. O. Thompson, railroad commissioner and deposed Texas representative on the Interstate Oil Compact Commission, at Oklahoma City. "I'll be here every meeting, packin' wood and water," he added.

FEAR THE FIRE: Exporters have tried centralized, bureaucratic Washington control and found it wanting. Shippers have spent a month trying to find out what products may and may not be exported. Regulators are in a fog and so are the regulatees.

POSSIBILITIES: The Tuscaloosa is nearly equivalent to the Woodbine. High-gravity crude has been found in the Tuscaloosa at Tinsley, Miss. This opens up a whole range of possibilities.

NEBRASKA BOUND: Kansans playing the Central Kansas uplift to the northwest continue to get results, latest discovery being in Phillips County, 29 miles south of Nebraska. The activity seems headed for the Kansas-Nebraska line.

CONTINUOUS RECORD: The coming Labor Day week end will bring to a close a new record in summer gasoline consumption. Fortunately, most records of the oil industry are continuous and a peak consumption for the fall months is assured.

NEW PAY: Oklahoma operators are not opening many new pools, but they are making headway in reworking old areas. A working-over program has started in the Fish pool, where a third pay sand has been found in the original discovery well.

MAXIMUM IN BARGAINS: There are occasional bargains in oil properties. But nothing in the past has ever approached in cheapness the price which the Mexican Government proposes to pay for the properties of private companies which it has expropriated.

NO TIME FOR COUNT: "Don't count us out!" say Illinois basin operators, despite the recent reductions in output. They completed 90 wells last week, they have many wildcats under way and they have been given the first boost in crude prices in many a moon.

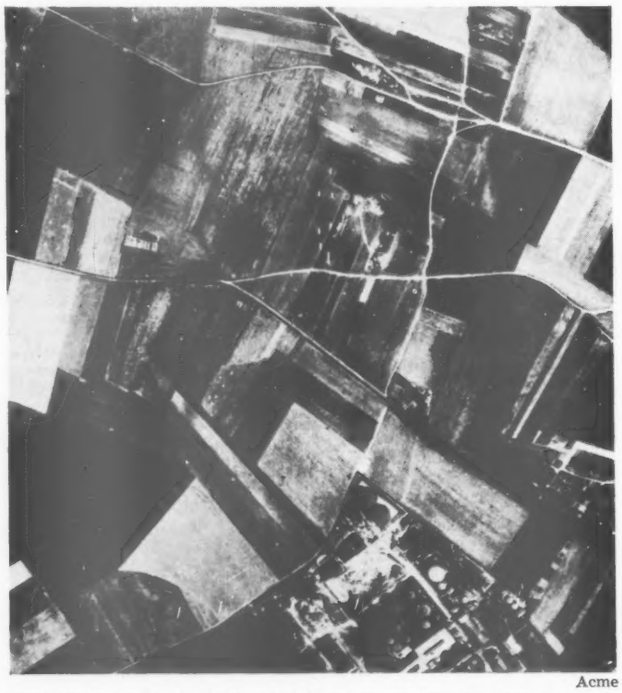
POINT WITH PRIDE: The Railroad Commission 1939 report this week points out that since oil was first discovered in seepages in Nacogdoches County, Texas, in 1880, the state has produced 6,058,768,433 bbl. of crude oil. At the start of 1940 there were 5,867 operators, 36,942 flowing wells and 52,972 pumping wells.

81 YEARS YOUNG: Tuesday, the anniversary of the Drake discovery, the oil industry was 81 years old. Based on expansion to come it is still in its infancy.

TOO MUCH: At Falls City, Neb., an oil operator was treated for shock which, according to the physician, was brought when the operator received the unexpected good news that his well had started making 500 bbl. per day after acid treatment.

INTERFERENCE: With one test completed for a producer and six more looking for pays, oil development in Galveston Bay eventually may interfere with motor-boat racing in that pleasure center of the Southwest.

BRITAIN RETALIATES . . .



Acme

According to the British Ministry of Information caption, this photo was made from one of the raiding planes of the R.A.F. that bombed the German oil depot at Monheim. The white specks at upper center are 10 bombs on the way to the target below. The oil tanks may be seen at lower right

Stafford County, Kansas, Scene Of Renewed Activity

By DAL DALRYMPLE

A NEW cycle of exploration and drilling apparently has begun in Stafford County, Kansas, where two oil pools already have been discovered this month, another pool recently was given a long extension and development of a second prolific pay zone in the county's largest field is progressing systematically.

Stafford County had its big year in 1938, when seven pools were discovered and numerous extensions to proven areas were made. Exploration lagged in 1939, the wildcats were dry and activity in fields was curbed.

It was off to a good start early this year, however, when Viola lime was found productive in the Zenith field, which previously had produced only from Misener sand. Working under one of the first spacing orders to be issued in Kansas, operators at Zenith are proceeding with a systematic development in both pay zones. The field, as yet undefined, has been extended several times in recent months and numerous large producing wells have been drilled, particularly in the north end of the pool.

The latest extension well was completed last week at Deep Rock Oil Corp.'s No. 1 Henry, E½ SE SW Section 3-20-11w, northwest corner of the field, for daily potential of 2,968 bbl. of oil from Viola lime at 3,733-99 ft. Numerous locations remain to be drilled within and offsetting proven areas.

With total potential of 353,611 bbl. daily, according to the August report of the Kansas Corporation Commission, Zenith rated fourth among Kansas fields, only Trapp, Bemis, and Silica pools having larger potentials.

An important extension well was completed late in July at Stanolind Oil & Gas Co.'s No. 1 Ahnert, W½ SE NE Section 10-22-12w, about ¾ mile southeast of the South Sittner pool, proving an extensive area for production. The extensioner made initial potential of 268 bbl. daily from Arbuckle lime at 3,630-35 ft.

Developments earlier this year included discovery of Simpson production in the Snider pool, previously producing only from Arbuckle lime; and extensions of the Snider, South Snider, South Sittner, and Max pools.

Although operators continued to bring in big producers in proven areas and enlarge the pools, results of wildcat drilling in the county since 1938 had been nothing to brag about until this month.

Late in July they began to get results, oil pay being found at Stanolind's No. 1 Roscoe Charles, C N½ NE SE Section 15-24-12w, and in the first week of August it was completed, opening the Stafford pool. Originally drilled to Arbuckle lime at 3,994-4,021 ft., total depth, water intruded and it was plugged back and completed through casing perforations in Viola lime at 3,815-50 ft.

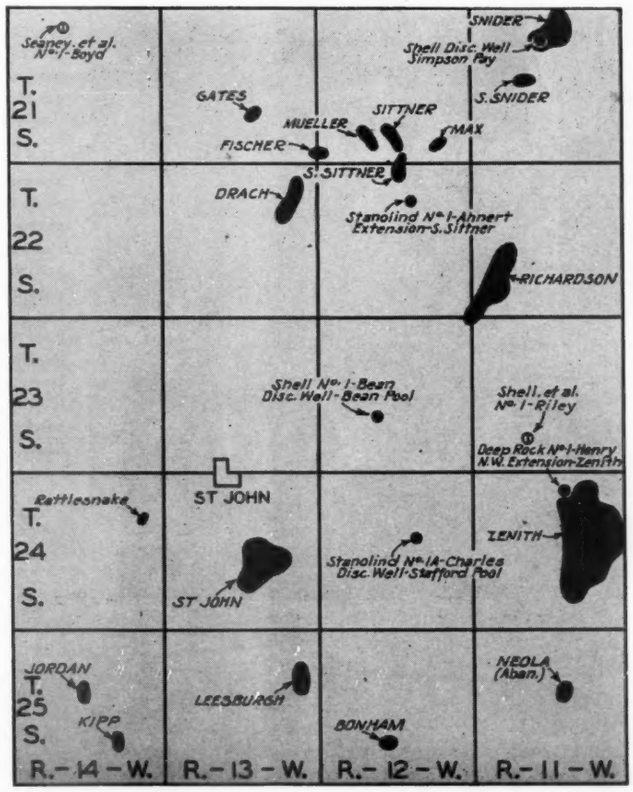
The second discovery of the month was made soon after completion of No. 1 Charles, when Shell Oil Co. found oil showing in Viola and Arbuckle horizons at its No. 1 Bean, SE SE SW Section 21-23-12w. Arbuckle lime found at 3,839-52 ft., which had fair porosity and oil showings. Four-inch casing was cemented at 3,840 ft., and when plug was drilled oil rose 3,600 ft. in the hole and it swabbed 177 bbl. in 6 hours, naturally. Gravity of the oil was 39.2° at 98° F. A potential test had not been made at time of writing.

The other wildcat is Shell and Atlantic's No. 1 Riley, SW SW SW Section 28-23-11w, about 3 miles northwest of the Zenith field. It flowed 82 bbl. of oil in 8 hours from Lansing lime at 3,471-76 ft.,

PRINCIPAL OIL POOLS IN STAFFORD COUNTY

Pool and location—	Year discovered	Producing formation	Average depth of pay	No. wells	Potential	Dly. aver. production, wk. Aug. 19	Total prod. to July 1, 1940
Drach, Twp. 22-13w	1937	Arbuckle	3,694	9	5,990	35	174,112
Fischer, 21-12w	1938	Arbuckle	3,645	5	1,764	110	54,689
Gates, 21-13w	1933	Arbuckle	3,670	11	12,921	115	533,111
Jordan, 25-14w	1937	Lansing	3,643	4	4,746	145	144,639
Kipp, 25-14w	1937	Lansing	3,825	3	2,816	85	67,020
Leesburgh, 25-13w	1938	Arbuckle	4,155	9	20,046	145	69,491
Max, 21-12w	1938	Lansing-Arb.	3,570	5	3,395	210	31,188
Mueller, 21-12w	1938	Arbuckle	3,594	2	1,122	. . .	(*)
Rattlesnake, 24-14w	1938	Lansing	3,650	1	1,772	30	15,547
Richardson, 23-11w	1930	Arbuckle	3,580	60	38,690	1,360	3,592,185
St. John, 24-13w	1935	Lansing-Arb.	4,000	19	25,522	290	614,520
Sittner, 21-12w	1937	Lansing-Arb.	3,620	5	5,792	30	201,676
S. Sittner, 21-12w	1938	Arbuckle	3,600	14	24,967	300	66,176
Snider, 21-11w	1936	Simpson-Arb.	3,335	5	5,050	185	155,012
S. Snider, 21-11w	1938	Simpson-Arb.	3,402	4	6,912	20	20,803
Zenith, 23-11w	1937	Misener-Viola	3,790	204	353,611	6,500	2,424,267
Total	....						8,164,436

*Included in Sittner.



This map of Stafford County shows location of the two most recent discoveries and their relation to older pools; recent extension wells and two wildcats nearing completion. Townships 24 and 25-15w are not shown, there being no development in that area

and testing continued.

Annual production in the county passed the million-barrel mark for the first time in 1937, with a total for that year of 1,097,859 bbl. This increased to 1,270,616 bbl. in 1938 and 2,368,510 bbl. in 1939. As production in the first half of 1940 totaled 1,290,568 bbl., a new annual production record undoubtedly will be set this year. The accompanying table gives cumulative production by pools.

Stafford County lies along the south flank of the Central Kansas uplift, and is traversed from northeast to southwest by the Ellsworth anticline. This is one of the more prolific minor structures in Kansas, with some of the state's richest pools on both crest and flanks. Among pools whose structures have been influenced by the anticline are Beaver, Chase, Lorraine, and Ploog. In Stafford County, Kipp, Jordan, St. John, Richardson, and the new Stafford pool are producing from structures influenced by it.

Stafford County is a dividing area between the Central Kansas uplift to the north and the deep basins to the south and southwest. Some of the lower strata present along the uplift begin to thicken as they extend to the southwest. As evidence of the change are marked differences in geological conditions in the northern and southern parts of the county. Many unconformities exist in the northern part of the county, but the southern part appears to be more regular and conformable. The comparatively few tests drilled in the southern townships show more conformity and no outstanding structural highs. Big yields

(Continued on Page 98)

Sinclair Adds Lube Plant to Refinery

By W. T. ZIEGENHAIN

HOUSTON, Tex., Aug. 26.—By early fall the Sinclair Refining Co. will have completed a large plant-construction program here. The addition of a complete lubricating-oil and wax plant in their refinery has called for the enlargement of many other facilities.

The new lube and wax plant is composed of many individual units, most essential of which are methyl-ethyl-ketone (M.E.K.) unit, percolating filter building and burner, chemical agitators and tankage.

The M.E.K. or solvent unit has been designed to permit a wide choice of waxy oils to be processed and its throughput per day will be between 2,500 and 3,000 bbl. From this neutral distillate the new unit will produce 20° F. to zero pour-point lube stocks. Based upon charging Mid-Continent neutral distillates the unit is expected to recover roughly 80 per cent zero pour-test oil and 20 per cent slack wax.

A maximum yield of wax will be sought and equipment is being added to produce and package high-melting-point waxes of unusual whiteness and freedom from odor, oil and moisture and with marked color stability.

Provisions are being made to manufacture up to 1,500,000 lb. of wax per month. The necessary intermediate tankage and wax storage facilities will permit handling large shipments on relatively short order; the wax molding equipment and two chipping machines will be able to handle together up to 50 tons a day.

The molding equipment will produce 10-lb. slabs or cakes which will be placed in sacks for shipment while the chippers will provide for loading the wax in wooden barrels or bags for shipment.

As an important part of the M.E.K. solvent plant, the company is installing four large continuous vacuum filters which will separate wax from the oil at the subzero temperature needed to yield the desired cold-test motor oil. These filters each contain 500 sq. ft. of filtering area, will separate the oil and wax, and wash and discharge the wax cake. Another important part of this unit is the ammonia refrigerating equipment which includes two 2-stage compressors each driven by a 450-hp. synchronous motor. Each unit is capable of producing 200 tons of refrigeration daily.

A feature of the unit is its automatic maintenance of a blanket of carbon dioxide over all tank contactors or wherever mixtures of air with oil or solvent vapors could accumulate. The carbon dioxide is generated in a separate unit within the system, and the system will be purged with newly generated CO_2 gas whenever the concentration of oxygen in the CO_2 mixture reaches 10 per cent.

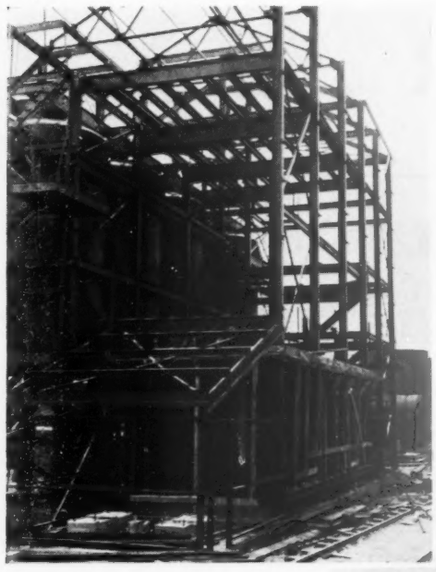
When the new plant is ready to operate, about 65,000 gal. of the special solvents will be taken into the system to be used over and over again until lost by evaporation, but of course this is almost a negligible factor.

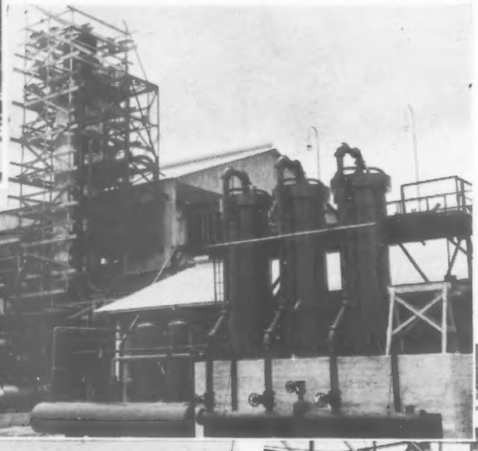
Other Changes

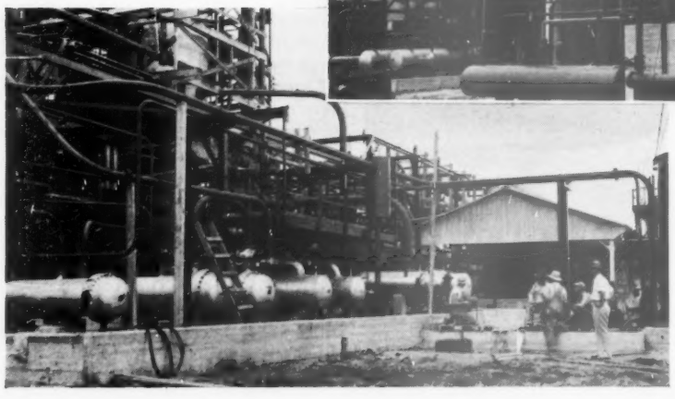
Reference was made previously to the expansion of other plant facilities. The largest single item was the installation of tankage which together with that needed as work tanks on the lube plant site called for the erection of 29 new tanks having a combined capacity of 211,000 bbl.

Another important job occasioned by the new lube plant was the revamping of the crude stills and vacuum pipe still to take off wax distillate cuts from the crude. Still another item was the erection of a steam still to rerun the filter wash.

While all plans and specifications have been worked out under the supervision of Sinclair engineers the actual construction for final acceptance is being performed by the Lummus Co.







Extreme left, at top: Percolating filters in place. An earth burner will be at this end of building when construction is completed. Lower left: Rear construction view at new methane-ethyl-ketone unit as part of lube and wax plant. In foreground are exchangers and in right rear the ammonia compressors will be housed. Left, at top: Solvent storage at right and in back of these is the filter house. Left: Ammonia condensers in foreground and filter house at left rear. Four vacuum rotary units will process all the waxy solvent and oil solution but space has been provided for two more if needed later. Below: Frame and floor of buildings to house wax-pressing and wax-packaging equipment.

Acme

British-censored caption for this picture said: "Thousands of tons of valuable petrol and oil drifting skywards in useless black smoke after British bombers had paid a visit to Bergen, Norway, and accurately placed their bombs on Nazi-controlled storage tanks."

War Curtailing U.S. Exports Still More

By J. P. O'DONNELL

NEW YORK, Aug. 27.—Developments of the past week indicated that United States' exports of crude oil and its products, already drastically reduced by the war, are probably facing even further curtailment. These developments included the announcement of a reduction in Mediterranean war-risk rates and the further spread of the British dominions' recently instituted policy of closely guarding exchange values. There were also some indications that Germany's announced "total blockade" of Great Britain was attaining some success.

The reduction in Mediterranean war-risk rates was announced by the British Government's war-risk insurance office. Rates for the eastern Mediterranean have been reduced one-fourth while rates for voyages through the Mediterranean to Alexandria, Port Said and Suez have been placed on a parity with those of voyages around the Cape of Good Hope. Reduction in these rates is regarded as assurance that Great Britain has retained control of the Mediterranean despite Italy's geographically commanding position.

Earlier it had been reported that British convoys have been in regular trans-Mediterranean service with very little interference from Italy. It could not be ascertained whether these convoys included oil, but there is a distinct possibility that they have. While pipe-line shipments of crude oil from the Kirkuk field to the refinery at Haifa, Palestine, have been limited to the refinery's capacity and no crude oil is being exported from this port, it is possible that some refined products have been shipped to Britain though they are normally consumed in the eastern Mediterranean area.

With apparent control of the Mediterranean, it is possible that Great Britain can obtain a part of its petroleum needs from British-operated oil fields in Iran without the necessity of the long trip around the Cape of Good Hope. Continuance of this route may rest to a large degree on the success of the Italian conquest of British Somaliland and Italy's proposed campaign against Egypt and Aden. Conquest of the latter would give Italy control of both shores of the narrow straits connecting the Red Sea with the Gulf of Aden. These straits are about the same width as the English Channel and with control of both shores the Italians would be in position to dominate all traffic.

Canada Restricting Consumption

With Canada already having committed itself to a policy of currency conservation, another large dominion importer of petroleum is reported to be on the verge of further restricting gasoline consumption for the same purpose. This is Australia, where the cost of importing gasoline has doubled since the war began. Thus the country is faced with the problem of reducing motor-fuel consumption 50 per cent in order to keep expenditures for gasoline at prewar levels. Economic advisers are, therefore, urging increased restrictions on gasoline in order to protect currency for the purchase of planes, munitions and other war material.

It is reported that steps have been taken to reduce Australia's consumption by 33 per cent but that politics has delayed their enforcement. However, the rise in price plus the loss of consumers due to enlistment for overseas service has effected a 20 per cent reduction in consumption. Failure to ration gasoline is regarded as a major contributor to the unfavorable trade balance, particularly with the United States, which has resulted in Australia using an estimated £20,000,000 of the empire pool up to June 1940.

Contrasting claims were voiced by the belligerents over the effectiveness of Germany's aerial and submarine blockade of Great Britain. Germany has claimed to have shut off traffic from southern and middle English ports which normally handle 50 per cent of the country's maritime commerce. However, these claims are apparently denied or at least mitigated by newspaper accounts of the shelling of convoys in the channel.

Essener National Zeitung has not only claimed that Germany has effected the closing of those ports through repeated bombing but added, according to a wireless dispatch in the New York Times, that 60 per cent of the British oil imports went through those ports and that refineries representing 80 per cent of the country's total refining capacity are dependent on them. Germany also claimed to have captured a Norwegian tanker in the United States-England trade and taken it to France. The week before it sank the British tanker, British Fame, which was reported to be in the West Indies-Great Britain service.

A possible indication that Germany's blockade is effective in a minor degree is seen in the report of British imports in the month of July. These imports were valued at £87,007,530 against £90,779,141 in June. However, the decline may also be attributed to further rationing of imports which has been pressed steadily by the Government's economic ministry.

Last week British fliers continued their attack on Axis' bases, concentrating on oil depots. They are believed to have gained notable successes in the Libyan port of Tobruk, Italy's base for North African operations and the probable launching for the proposed attack on Egypt with the Suez Canal and eastern Asiatic oil-producing countries as the ultimate goal. Italy's propaganda drive on Greece, regarded as a basic part of her near eastern campaign, was also continued without interruption. Increased apprehension was likewise felt in the Far East, where Japan's recall of 40 foreign ministers and the formation of a body to promote South Seas hegemony led to fears that Japanese action with regard to the East Indies is imminent. The belief has been expressed that Japan will take advantage of Great Britain's preoccupation with the war at home to institute her "new order" in the Far East.

While there were evidences from abroad of the likelihood of further curtailment of United States oil exports, customs officials here adopted new clearance forms for the exports of crude oil and refined products with the intention of speeding up licensing arrangements. These applications are sent to Washington via teletype and authorizations may be obtained in a few hours when there is no question raised regarding the cargo or destination of the vessel.

Two forms are now in use, one for vessels with destinations in the Western Hemisphere and the other for vessels with destinations elsewhere. In each, provision is made for recommendation by the collector on whether or not clearance should be granted. Complete details, including the name, nationality, destination, owner and charterer, if any, sailing time and description of the cargo are required. When vessels are destined for ports outside this hemisphere, a detailed description of the cargo, on the basis of 42-gal. barrels in the case of oil, is required. Quantities must be shown according to the following classifications:

1. Fuel oil and gas oil (including diesel oil).

2. Crude, classified as: (*a*) Blended or California high-octane crude* and (*b*) all other crudes.

3. Gasoline, classified as: (*a*) Aviation motor fuel* and (*b*) all other gasoline (including kerosene and benzene).

4. Lubricating oil, classified as: (*a*) Aviation lubricating oil* and (*b*) all other lubricating oil.

5. Tetraethyl lead.*

6. "Boosters," such as isooctane, isohexane and isopentane.

*As defined in the president's regulations of July 26, 1940.

STATE CAPITALS...

MICHIGAN

A MEETING ON SEPTEMBER 9 for the hearing of evidence on proration allowables in one or more oil fields of Michigan, and on spacing in the new Sun field of Hamilton Township, Clare County, has been called by P. J. Hoffmaster, supervisor of wells. The hearing was recommended by the Advisory Board in general session last week. This board recommended to Supervisor Hoffmaster that he issue regulations to govern production in either or both the Hamilton and Adams fields, when and if evidence developed that physical or market waste was imminent or taking place. The board recommended that 20-acre spacing be adopted in the new Sun pool.

The Advisory Board also recommended that the hearing include testimony on proration methods involving large leases. Under present Michigan methods of proration, although each well has a fixed allowable, proration is regulated on the overall basis for the lease. Thus by producing a few wells to credit the full lease with its allowable, the purposes of proration may be defeated. One method suggested to equalize this problem would be to reduce the size of units regardless of the lease division. For example, 20 or 40-acre proration units might be established in the big leases of 120 and 320 acres, as is done in Texas and other oil states.

TEXAS

TITLES TO SOME 575 tracts of land once alleged to be vacant were cleared on August 20 through failure of applicants to file suits, Land Commissioner Bascom Giles announced last week. Ownership of millions of dollars worth of oil land, however, will be litigated under suits instituted within the statutory limit. Clearing of titles resulted from operation of the new land statute enacted by the past legislature.

Commissioner Giles estimated that less than 30 suits will have to be tried to clear up more than 600 contested title claims that were pending when the state passed its new land-vacancy law. Time for filing suits on the claims expired at midnight August 20. So far the land office has received notice of 14 suits. As the suits could be filed in the counties where the land is situated, several days must elapse before it is known definitely how many suits were filed over the state.

Trial of the suits will be the final chapter in the plan adopted by the last legislature to clear up Texas titles. Under that law the land office was given until June 19 to act on pending claims. Claims that had not been decided then were so stamped by the land office. The claimants then had through August 20 to file suit. As a step to clearing up titles the legislature ordered all state land taken off the market February 7, 1939, until the new vacancy law took effect and fixed time limits to dispose of pending claims.

Under the new law a person claiming there is a vacancy between grants must post $100 filing fee. Formerly such claims could be filed for $1. The new law permits "good-faith claimants" occupying land to file applications for it by paying a dollar. They can purchase the land at a valuation set by the land office. Most of these claims are filed on land that has been found to be an excess above the area covered by survey records.

VICTORY OF OLIN CULBERSON in Texas' runoff Democratic primary election in the race for railroad commissioner was made certain in the Sunday night report of the Texas Election Bureau. Mr. Culberson, with 459,061 votes, had a majority of 47,405 over Pierce Brooks, according to returns from 253 of the 254 counties including 202 complete. Mr. Culberson, in winning the Democratic nomination, and if successful in the November election, will take over the post held by Commissioner Lon A. Smith, who did not run for reelection.

UNDERGROUND WATERS are public waters and are covered by Article 4444 of the revised civil statutes forbidding pollution, according to a ruling last week by Asst. Att. Gen. Hugh Q. Buck. The statute itself merely forbids the pollution of any "water course or other public body of water from which water is taken . . ." and Dr. George W. Cox, state health officer, had asked as to its applicability to underground waters.

His specific ruling was that "underground water courses and bodies of water, including strata, but not mere percolating waters, are public waters within the purview of Article 4444." To reach this conclusion, Mr. Buck wrote an exhaustive opinion treating upon the courts' attitudes toward all classes of underground waters. The opinion was considered of particular importance because of the fact that Mr. Buck is in charge of the program of salt-water disposal upon which the state in cooperation with most affected operators in East Texas has embarked.

THE CONTROVERSY OVER WELL SPACING in the new Pittsburg field of Camp County, East Texas, will be reopened on August 29 at the Pittsburg court house after being recessed by the Railroad Commission last week for the second time. The hearing was begun August 15 in Austin and recessed until last Thursday, when attorneys for leaseholders asked time to gather data. Then, after another all-afternoon session, the commission recessed it until August 29.

The controversy is between Moss, owner of the discovery, and major companies who want 40-acre spacing; and owners of land in the area who want something less than 40, preferably 20. They assert they have been unable to obtain information about the well. Moss contends wide spacing will most quickly define field boundaries while opponents aver there will be quicker development with a 20-acre rule as drilling firms would be more likely to risk the $75,000 required to drill a test if they could drill near known production.

COMPACT REPRESENTATIVES . . .

A. Andreas, Santa Fe, New Mexico state geologist, and P. J. Hoffmaster of Lansing, Michigan conservation officer, who represented their respective states at the Interstate Oil Compact Commission meeting held in Oklahoma City on August 23

KANSAS

POTENTIAL TESTS will be taken on all wells in the Burrton chat and Burrton Hunton pools, in Reno, Harvey and McPherson counties, beginning September 9 the Corporation Commission announced this week. In the Keesling pool of Rice County the tests will start on September 5. All wells producing less than 15 bbl. of oil during an 8-hour period will be required to test for a full 24-hour period, after first removing from the well the fluid contained in the annular space.

LOUISIANA

THE LOUISIANA Department of Conservation has set September allowables for the state at a daily total of 274,854 bbl., an increase of 234 bbl. daily over the August total. This is in line with the U. S. Bureau of Mines estimated demand of 274,700 bbl. for Louisiana.

NEW MEXICO

THE OIL CONSERVATION COMMITTEE is compiling data for a meeting on August 29, to decide on the final fixing of gas-oil ratios in the Eddy County fields. The purpose is to prevent gas waste by reducing the amount of gas required to produce 1 bbl. of crude. It was charged that in some wells as high as 10,000 cu. ft. of gas is used to produce a barrel of crude, where one-half that amount if properly used would get the same results. Tests of all flowing wells in Lea and Eddy counties were recently completed under the guidance of the committee, and the accurate data resulting from the survey is being used in compiling optimum ratios for the various individual fields.

CALIFORNIA

THE CONSERVATION COMMITTEE of California Oil Producers decided at a meeting held August 22 to reduce the state's allotment for the month of September to 571,000 bbl. This is 16,000 bbl. per day below the allowable that prevailed during August and for several months previous. This cut in state allowable reflects the suspension of crude-oil shipments during August and indicates that the committee also anticipates a substantial decline in September demand. Early in the month it had been thought that the committee would not change the allowable for September but as each day passed and no decision could be secured from the State Department with respect to crude-oil shipments it became more evident that something had to be done. Crude oil has been piling up for the past 3 weeks at an alarming rate due to temporary suspension of crude exports to Japan. The State Department has advised that licenses will be granted for crude-oil shipments but it should be remembered that the present policy could be changed overnight by simply refusing to issue the necessary licenses. As a consequence the conservation committee has been forced to cut production in an effort to prevent a general breakdown later in the year when the demand drops in sympathy with climatic conditions.

the OIL AND GAS JOURNAL

PRODUCING REFINING NATURAL GASOLINE PIPE LINE

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Non-Political Job

Governor O'Daniels' plan to administer Texas oil and gas conservation through a commission specially created for that purpose has substantial support among operators in that state.

Giving full credit to the Texas Railroad Commission for its accomplishments over the past 20 years, these operators now favor a body which will devote its entire time to the solution of pressing oil and gas problems.

The stake which Texas has in the permanent solution of these problems, as pointed out by the governor, is readily apparent. Natural-gas sales alone are practically equal to the state's cotton production and petroleum is four times greater.

Ninety-five refineries and more than 150 natural-gasoline plants are by far its most important manufacturing activity.

Because Texas is the leading oil and natural-gas state, what happens there is certain to be a controlling factor in the industry's operations generally. This, of course, does not free the other states in their responsibilities since the principles involved in the proposed Texas change are the same, everywhere.

When state regulation was introduced in Texas it was placed in the hands of the Texas Railroad Commission because the commission had largely ceased to function as a railroad regulatory body.

Incidentally, this evolution of railroad regulation in Texas and elsewhere should be studied by those now administering petroleum conservation within the states.

The railroads originally were regulated by state commissions. In many cases these bodies became centers of state politics with too little attention being paid to the duties which were theirs. It reacted to the detriment of everyone concerned including, eventually, the politicians.

These failures resulted in more and more of the administration moving from the state capitals to Washington.

While there are essential differences in the regulation of a transportation artery and a major natural-resource industry, state regulation by the oil states must be adequate if it is to survive.

The problems in oil and natural-gas conservation are becoming more and more technological. From the spacing of new wells to the application of recovery methods in old areas, there is a steady stream of new operating practices which should have a direct bearing on the application of conservation rules and regulations.

Methods which could have been justified 10 years or even 1 year ago often should be dropped, and changed procedure substituted in determining the development program of new areas.

The engineering departments which have been created, to have direct charge of applying regulations, are making progress. With the full cooperation in most instances of operators, they have accumulated a vast amount of engineering and statistical data which give the needed background for present and future regulations.

The efforts of these departments are futile unless their recommendations are understood and supported by those who direct their efforts. This is a job for a commission devoting its entire time to problems which will change from year to year and month to month.

Furthermore, the matter of equity in prorating production between leases and fields is based fundamentally on technical knowledge and goes to the bone of all conservation programs.

This is no place for actions based on political expediency. There must be correlation of regulation and continuity in administration. The production of oil is a business. It must have the same type of regulation.

Mexico Evaluates Properties; Standard Voices Protest

IF Mexico is successful in completing its expropriation of foreign-owned oil properties on the basis of recently completed evaluation surveys, the companies which previously owned these properties will receive little or no compensation. Deductions of workers' severance claims and government fiscal claims from the latest evaluations, ranging from $34,500,000 to $36,250,000, would reduce the compensation to be paid by Mexico to the companies to a minor fraction of their own claims.

The surveys just completed were made by Enrique Ortiz, representing the government, and Trinidad Paredes, representing the companies, both of whom were appointed by the First District Civil Court. The latter was appointed by the court as the companies' representative when they declined to nominate an evaluator of their own on the basis of the fundamental difference between companies' and the government's contentions. Because of the variation between the two estimates, that of the "companies'" evaluator being approximately 8,500,000 pesos greater than the government report, a third evaluation will be made by Ricardo Jordan before the government reaches a conclusion on the amount of compensation it will agree to pay.

The government representative set a value of 172,727,000 pesos, equivalent to $34,546,000 at the current rate of exchange, on the properties while the court-appointed representative for the companies set the value at 181,292,000 pesos, equal to $36,258,000. These evaluations excluded the Sinclair properties on which a separate agreement has been reached. The Sinclair agreement entails the payment of $8,500,000 to the company by Mexico, a second $1,000,000 payment of which is now being made.

Total Greatly Reduced

Since the Mexican Petroleum Workers' Syndicate has a severance claim against the companies of approximately 117,000,000 pesos and since it is presumed that the government will pay only the difference between the estimated value of their properties and the sum of the workers' claims plus government fiscal claims such as unpaid taxes, final payment to the companies would be greatly less than the valuations put on the properties last week. Deduction of the workers' claims alone would, in the case of the government survey, bring the total down to 55,000,000 pesos or about $11,000,000 and in the case of the court-directed companies' survey to 64,000,000 pesos or $13,000,000.

The Sinclair Pierce Oil Co. properties, for which Mexico has already negotiated a private settlement agreeing to pay the company $8,500,000 in cash, have been appraised at $281,401.

On the basis of the Sinclair settlement of approximately 30 to 1 in ratio of payment to value liability of Mexico to the unpaid companies would total $1,028,540,695. Whether payment of other companies upon any lesser basis than extended to Sinclair would be acceptable to the Department of State is a question of policy that offers interesting ramifications.

Based strictly on the appraised value and using the arbitrary ratio of 30 to 1 as extended in the Sinclair settlement, the expropriated companies whose claims are still unadjusted would be as follows:

El Aguila (Shell), $828,928,996; Huasteca (Standard of New Jersey), $151,331,607; Standard of California, $28,503,273; Cities Service, $11,201,548; Continental, $2,150,342 and Sabalo (a transportation company), $6,422,929.

In the evaluations completed last week, the value of the Mexican Eagle Oil Co. (Royal Dutch-Shell) properties was set at 137,000,000 pesos by the government evaluator and at 151,000,000 pesos by the "company" representative; those of Huasteca Petroleum Co. (Standard Oil Co. of New Jersey), at 26,000,000 pesos and 25,000,000 pesos, respectively, and those of other and smaller companies, at 10,000,000 pesos and 5,000,000 pesos, respectively. These estimates, of course, include no valuation of the oil reserves which, according to the Supreme Court, are the property of the government.

Previous to the reorganization the industry was divided into 32 zones which have since been reduced to three, northern, central and southern, by which it was believed possible to eliminate superfluous employes and overlapping functions. The reorganization plan was begun first in the central zone at the time commissions were dispatched for the same purpose to the others. Their problem is to eliminate a deficit that on June 30 of this year was estimated at 67,904,544 pesos and is estimated to be rising at the rate of 2,000,000 pesos a month.

Standard Oil Co. (New Jersey), whose operating subsidiaries in Mexico were seized, issued a statement denouncing the Mexican valuation. The company pointed out that the so-called representative of the companies in the Mexican appraisal scheme "was not nominated by them, does not represent their interests, and is no way authorized to speak for them." The company also called attention to the value of Mexico's foreign-owned oil industry placed at 1,038,943,000 pesos (about $499,492,000) by the Mexican Department of Industry in 1928.

Value of the Mexican oil properties consists essentially of the subsoil petroleum reserves, the company statement contends, and deplores that no valuation whatever was assigned to these rights. Without the subsoil rights the company contends there would not have been development of the fields, refineries and pipe lines that Mexico is now attempting to disassociate from the underground reserves.

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Olmsted Succeeds Rieber On Texas Co. Directorate

NEW YORK, Aug. 26.—C. E. Olmsted, vice president of the Texas Corp. in charge of refining, has been made a director filling the position left open by resignation August 23 of Torkild Rieber. Mr. Olmsted has served the Texas Co. since 1919 in various capacities. He succeeded F. T. Manley as vice president in charge of refining for the Texas Co. in 1938 when the latter retired.

Most of his business career has been spent with the Texas Co. or affiliated companies. He first joined the company in 1919, entering the New York engineering department when he was mustered out of the U. S. Army. Mr. Olmsted remained in New York until 1923, holding various positions in the engineering and refining departments. In that year he resigned to join the California Petroleum Corp. as manager of engineering, natural gasoline, pipe-line, and refining departments on the Pacific Coast.

C. E. OLMSTED

He was elected vice president of the California Petroleum Corp. in 1924 and became a director in 1925. When California Petroleum Corp. was absorbed by the Texas Co. in 1928, Mr. Olmsted became vice president in charge of refining for the Texas Co. (California). He became vice president and general manager of the Pacific Coast subsidiary in 1929 and was elected president in 1934. He was transferred to New York headquarters about 2 years ago from California.

Mr. Rieber resigned 3 weeks ago as chairman of the Texas Corp. and his retirement from the board last week effects complete severance from Texas Co. affairs.

The post of chairman has been abolished by the Texas Co. board and duties of that office will be permanently assumed by W. S. S. Rodgers, president of the company.

Mr. Rieber's place on the executive committee has been filled by Charles A. McCulloch, a director.

State Department Granting Crude-Shipment Licenses

LOS ANGELES, Calif.—Liberal granting of licenses for the shipment of crude oil from California is the present policy of the State Department, according to a telegram to the Oil Producers Agency from Sumner Wells, Acting Secretary of State. The telegram, addressed to Rush M. Blodget, executive vice president of the agency, was in reply to a telegram sent by the agency to the State Department in an effort to clarify the definition of "aviation gasoline" given in the president's proclamation of July 26, which left considerable doubt in the California oil industry as to just what was included in the ban on shipments.

The question arose with respect to the content of 87-octane material in normal California crudes, and as to whether a 3 per cent content of such material, recoverable under specialized refining methods, would prohibit shipments of the crude outside the Western Hemisphere. Text of the telegram follows:

"Reference to your telegram August 15, to the Secretary of State and similar message referred to the Department by Sen. Hiram Johnson, the issue you raise has been referred to the Administrator of Export Control, who informs the department that if your product falls technically under the definition of aviation fuel as defined in the president's proclamation of July 26, 1940, you must apply for an export license. That application should be supplemented with a statement that it is impracticable to make a high-grade aviation fuel oil this material. In any case licenses are being issued freely for the export of all crudes except those mixed with isooctane, isopentane, neohexane, or alkylates."

THE MARKETS*

CRUDE OIL: Advances of 5 to 10 cents per barrel have been made by most purchasers in the Illinois basin, eastern Illinois, western Indiana, Kentucky and Central Michigan. (For effective dates and details refer to story on Page 16). Other crude prices are firm and unchanged.

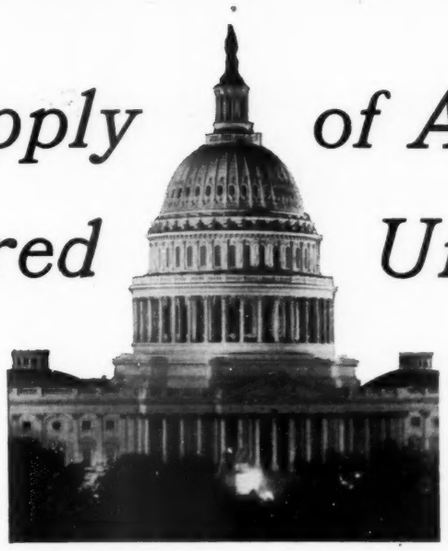
REFINERY: Fuel oils are strong in most refining districts, particularly the residual grades. Distillate fuels, including kerosene, suffered a decline on the East Coast, moving counter to trends in most other areas. The Middle West gasoline market is slightly stronger as a result of crude advances in that refining district.

TANK-WAGON AND POSTED DEALER: Tank-wagon gasoline prices were raised as much as 0.05 cent in Missouri and Kansas. Kerosene tank-wagon prices were reduced 0.03 cent in New Jersey, most of the New England territory and New York, excepting western New York. Tank-wagon prices were lowered in mid-August 1.5 cents at Birmingham, Ala., and 0.05 cent at Augusta and Savannah, Ga. Vicksburg, Miss., prices were off 0.05 cent while Jacksonville and Miami, Fla., quotations were lifted 1.5 cents.

FINANCIAL: Trading in oil securities covered a narrow range with a slight improvement on the low and last quotations. Average of 30 representative stocks for the week ended August 24: High, 21.07; low, 20.44; close, 20.82. Week ended August 17: High, 21.19; low, 20.38; close, 20.56.

*Detailed information in Market Section.

Reserve Supply of Aviation Gas Will Be Stored Underground



By HENRY D. RALPH

WASHINGTON, Aug. 27.—Plans have been virtually completed for meeting the national-defense needs for aviation gasoline, and the only potential bottle neck is a possible scarcity a year or so hence of 73-octane clear uncracked gasoline.

The plans call for purchase and storage of perhaps as much as $50,000,000 of 100-octane gasoline which would meet maximum Army and Navy needs in case of war for 3 or 4 months, and invitations to bid will be sent to refiners within a week or two. About half of this reserve will be stored by the Army and Navy in their own tanks and the remainder will be stored by refiners under contract with the Government. Success of the plan depends upon the price at which 100-octane gasoline is offered by refiners. Officials feel that the current price of around 17 cents a gallon is too high, and that if the fuel cannot be purchased at a lower figure the Government should consider building its own plant to manufacture 100-octane gasoline.

The possible scarcity of 73-octane clear gasoline is due to the fact that cracked gasoline is not suitable for airplane motors. The 100-octane gasoline used only by the Army and the Navy and by Pan-American Airways consists of 73 or higher octane clear stock plus blending agents plus tetraethyl lead. For training planes the Army and Navy have agreed on what they formerly graded as 92 octane, but which under their newly adopted rating system will be 91-octane gasoline composed of 73-octane clear stock plus 3½ to 4 cc. of tetraethyl lead. Within a short time most or all of the domestic commercial airlines will be using this same 91-octane gasoline, although at present some of them are using lower-octane fuel. For elementary student training and small private planes the standard gasoline is 73-octane composed of 65-octane uncracked gasoline, which can be supplied by most Mid-Continent refiners, plus 1 cc. of tetraethyl lead. There will be no problem in producing sufficient quantities of primary-training aviation gasoline, but with the anticipated tremendous growth of the Army and Navy pilot-training program, the delivery of thousands of new combat planes, and normal growth in commercial airline business there is expected to be such a heavy demand for 73-octane clear stock which is the basis of both the 91 and the 100-octane fuels that producers of this product may be operating at full capacity within a year or so.

Will Operate Through R.F.C. Subsidiary

The program for purchasing and storing 100-octane gasoline will operate through a new subsidiary of the Reconstruction Finance Corporation known as the Defense Supplies Corporation. It has a capital of $5,000,000 and will be advanced $50,000,000 by the R.F.C. for the purchase of gasoline. Whether or not this entire sum will be used depends on the price at which the fuel is offered and on military considerations. The fuel will be bought through Army and Navy purchasing agents on regular specifications, but the Defense Supplies Corporation will have title to it and will sell it to the Army and Navy as needed, presumably at a sufficient profit to cover operating expenses of the corporation, and will then purchase additional supplies so that the $50,000,000 will act as a revolving fund. Some sales might be made to commercial airlines under certain conditions if approved by the military officials. The purchasing program will be under the general direction of an advisory committee which will have representatives of the R.F.C., the Defense Supplies Corporation, War Department, Navy Department, Joint Aeronautical Board, and National Defense Advisory Commission.

About half the reserve supply will be stored by the Army and Navy in its own tanks, most of which are yet to be constructed, and the remainder will be stored by the refiners under contract. Probably the purchase contracts will include provision for 1-year storage and subsequent storage will be covered in later contracts. It is not impossible that some of the gasoline may be held for as long as 5 years.

A special committee of oil-company engineers is advising the Army and Navy on these storage problems. It was appointed by Dr. Robert E. Wilson, chief of the petroleum section of the National Defense Advisory Commission, and held its first meeting last week.

Name Committee

The committee selected at the request of the assistant secretaries of war and navy consists of: Scott E. Drummond, Standard Oil Co. of New Jersey; W. B. Engelbrecht, Phillips Petroleum Co. of California; S. P. Johnson, Standard Oil of California; O. B. Lewis, Ethyl Gasoline Corp.; C. D. Norris, the Texas Co.; Walter Samans, Sun Oil Co.; and E. D. Seymour, Socony-Vacuum Oil Co., Inc.

Members of the committee, Dr. Wilson said, are outstanding terminal designers and are being loaned by their companies for service to the Government without compensation. They expect to spend several weeks on the various studies involved in the project.

The committee met with Capt. F. T. Watrous, Capt. E. D. Almy, and Capt. A. B. Anderson of the Navy, and Gen. R. C. Moore, Col. Frank M. Kennedy, and Lieut. Col. Albert W. Waldron of the Army, for preliminary discussions of the various problems upon which the advice and suggestions of the special committee are desired.

Just how much 100-octane gasoline will be bought and stored is supposed to be something of a military secret, but the military men are planning in terms of 100 days of "total effort," meaning all fighting planes in the air the maximum amount of time possible. The combined Army and Navy air fleets will ultimately be about 25,000 planes and the average consumption is 50 gal. per motor per hour, but the number of motors varies from one to four and consumption of gasoline varies with the horsepower and speed of the planes, so it is impossible to figure 100 days' supply on this basis.

Ultimately the storage stocks will probably total around 7,500,000 bbl., but there are no estimates, public at least, as to when this total may be reached. The $5,000,000,000 supplemental defense appropriation bill now pending in the Senate carries a Senate amendment authorizing the construction of aviation-gasoline storage facilities by the Army and Navy for 7,500,000 bbl. of fuel. The total cost of this project would be $7,500,000, with the Navy spending $2,500,000 and the Army $5,000,000. However, only about half this amount would be appropriated for spending during the present fiscal year but the services could enter contracts for the remainder and receive appropriations to cover the expense at some later date.

Underground Storage

Much of the storage to be built by the military services will be underground but not necessarily bombproof. Current military thought is that under conditions in this country it is better strategy to scatter reserve stocks than to try to protect them from heavy artillery bombardment or direct air bombing. The plan is to build underground reservoirs covered with perhaps only a few feet of earth planted over with shrubbery with the view of concealing their locations rather than protecting them from direct hits by heavy explosives.

In case refiners need to build additional storage to fulfill their contracts they may be encouraged to build it underground at locations approved by military experts, but probably most of the 100-octane fuel purchased will be stored in ordinary commercial tanks aboveground. The contracts will specify the location of the storage and the locations offered, considered from a strategic point of view, will be a factor in awarding contracts. Aviation fuel is easy to store indefinitely and no special storage facilities are required except from the military standpoint.

The fuel will be stored unleaded and probably most of it also unblended. The procedure probably will be for a refiner to fill certain tanks with clear stock of 73 octane or better and certain other tanks with the blending agents he regularly uses. These tanks will then be sealed by the Government and it will be certified that so much of Tank A plus so much of Tank B plus so much tetraethyl lead will yield 100-octane gasoline of government specification.

Reserve supplies of tetraethyl lead are being built up in various parts of the country for emergency needs, and while little is being said about this it is understood that this is being done largely by the Ethyl Gasoline Corp. itself in conjunction with the Army and Navy. Studies have also been made of the aviation-lubricant situation, and the conclusion is that this presents no problem warranting a reserve purchase program at this time.

Requests for bids for supplying and storing 100-octane fuel probably will be ready for submission to refiners within 2 weeks. The purchase program is calculated, if the price is satisfactory to the Government, to keep present 100-octane refineries operating at a relatively high percentage of capacity for many months, after which there should be a very considerable increase in current consumption by the military services.

Natural Gas in Ferro-Manganese Production for National Defense

WASHINGTON, D. C.—Because of the advantage of using natural gas as fuel in the exploitation of manganiferous ores which are vital for the program of national defense, it is possible that the project of the Kansas Pipe Line & Gas Co., for building a line from Hugoton, Kans., to Minnesota, may have a significance which will justify the Government giving special consideration to the proposed line.

Early this year the Reconstruction Finance Corp. indicated a willingness to loan around $7,500,000 which amounts to approximately half the cost of construction. Under present conditions the management of the pipe line does not regard the construction of the line as practicable or proper unless it can be a factor of importance in the present national-defense program. It is contemplated that the Reconstruction Finance Corp. will be asked to consider making a loan of around $11,250,000 which would amount to about 75 per cent of the estimated cost of the project.

The relation of the pipe-line project to the national-defense program is indicated by the following facts. It is understood that the War and Navy Departments propose to have enough ferro-manganese for 2 years' requirements of the United States. It has been estimated that the steel companies have on hand supplies of ferro-manganese which will last a year. The Government is planning to import 1 year's supply. Although authority for importing was granted several months ago, only small amounts have been delivered to date. It is expected that 250,000 tons will come from Brazil and 125,000 tons from Cuba. Total requirements for a year amount to 900,000 tons.

The function of manganese in steel manufacture is briefly described as follows in Producing Equipment Directory, Page A-20:

"During the melting, teeming and solidifying stages of the molten steel it is degasified and deoxidized by the addition of manganese. The steel is made easier to forge, press or roll because the bad effects of oxygen, oxides and sulfur are counteracted when manganese is added. Also the quenching temperature and heat conductivity are lowered. It increases the ultimate strength and to some extent the toughness by its solution in the iron base and its carbide formation. Depth of hardness penetration is increased and the distortional effects of quenching are greatly reduced. Grain growth tendency is increased by high temperatures or overly long heating periods. Electrical conductivity is lowered, especially in the austenitic types. (Manganese 12 per cent and higher.)"

To provide for the future, the War Defense Committee working in connection with the Bureau of Mines is interested in developing facilities for large ferro-manganese production. To this end, Reconstruction Finance Corp. has authorized loans of $6,000,000 for the construction of three pilot plants on Cuyuna Range which will be operated by a cooperative arrangement made by several operators. After operating pilot plants during the first year, plans call for the construction of large production plants during the second year.

It has been urged that the pilot plants be large enough for commercial operation. It is claimed that commercial operation will not be possible unless a fuel is provided which is cheaper and in more convenient form than coal or oil. With natural gas available at the rate of 15 cents per thousand cubic feet commercial operation will be practicable for producing a 50 per cent ferro-manganese ore at a cost at the plant of 30 cents per ton. After freight has been added this ore can be delivered at the steel mills at approximately the same cost as that of imported ore with duty paid.

According to the original plans, the Hugoton-Minnesota pipe line was to serve the Mesabi and Cuyuna iron ranges in Minnesota as well as cities along the way. The two deposits of manganiferous ore which are nearest the country's steel centers are the Cuyuna Range, Minnesota, and the Chamberlain field, South Dakota. The Kansas Pipe Line & Gas Co. has revised its plans so as to be prepared to include an extension to Chamberlain if exploitation of manganiferous ore is planned on a substantial scale at that point.

In less than a year after construction of the pipeline project is authorized, it will be possible to supply sufficient natural gas for suggested leaching, smelting, or roasting processes to produce about a third of the total estimated annual requirements for ferro-manganese ore.

Natural gas is regarded as the best fuel for satisfactory use. At the industrial rate of 15 cents, natural gas is perhaps 30 per cent less expensive than other fuels available at the point of operations. If natural gas is not available, substantial investments must be made in gas-generating plants to produce gas from oil or coal. The total cost of such manufactured gas is considerably greater than natural gas at the 15-cent rate.

By the Hugoton-Minnesota pipe line 40,000,000 cu ft. per day of gas can be delivered for ore treatment during 8 months of the year. In the opinion of engineers and operators on the Cuyuna Range such a supply would make the United States entirely independent of importations of ferro-manganese ores from foreign countries.

The supplying of fuel by pipe line is in accordance with present war-defense measures which favor the placing of vital facilities underground where they are practically immune from damage by airplane bombing. The proposed extension furnishes a vital fuel service to the populations of large sections of the three states, Nebraska, South Dakota and Minnesota.

The pipe line will furnish natural-gas service to many communities in northern Minnesota as well as the iron ranges, including fuel for various industrial and public electric-generating plants in that state. These power plants will represent a link in the necessary operation of the iron ore producing plants in northern Minnesota on the Mesabi Range upon which this country is almost entirely dependent for the raw materials for its manufacture of steel.

In wartimes there is a shortage of railroad transportation. The daily delivery into Nebraska, South Dakota and Minnesota of more than 60,000,000 cu. ft. per day, or approximately 20,000,000,000 cu. ft. a year, means that in times of such war emergency the transportation of an equivalent amount of fuel in some other form is avoided. Converted into terms of coal, this means a saving in the production and transportation of more than 2,000,000 tons.

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Standard of Louisiana Forms New Producing Subsidiary

SHREVEPORT, La., Aug. 27.—Segregation of all Standard Oil Co. of Louisiana producing operations under a new subsidiary corporation was announced here today.

The new company, Louark Producing Co., will be headed by J. R. McWilliams, president. Cecil Morgan has been made vice president and secretary and V. C. Megarity is treasurer of the new corporation organized in Delaware.

M. J. Rathbone, president of Standard of Louisiana, announced the new policy in the following statement:

"Standard Oil Co. of Louisiana announced today the formation of a subsidiary company formed to conduct its crude-oil producing operations. The name of the new subsidiary is the Louark Producing Co., which is incorporated under the laws of Delaware and is qualifying to do business in the states of Louisiana and Arkansas. The Louark Producing Co., effective September 1, will handle all of the activities of the Standard Oil Co. of Louisiana which were formerly conducted by the producing department in connection with the exploration and development of oil and gas properties. The headquarters of the new company will be located in the Standard Oil Building at Shreveport."

The announcement then listed officers of the new company and added that "all of the oil and gas properties of the Standard Oil Co. of Louisiana are being transferred to the Louark Producing Co."

Mr. McWilliams has been a vice president of Standard of Louisiana at Shreveport in charge of the producing department for several years. He first joined the Louisiana subsidiary of the Standard Oil Co. (New Jersey) in March 1936, after completing 2 years of service with the Carter Oil Co. in Tulsa headquarters where he was head of the concern's proration division.

Mr. McWilliams' experience in the Mid-Continent oil industry dates back to the early 1920's. He worked a year for the Oklahoma Petroleum & Gasoline Co. as an engineer and then joined the Freeborn Engineering Co. In 1925 he became production engineer for Skelly Oil Co. and in 1933 became assistant Oklahoma proration umpire until he joined Carter April 1, 1934.

J. R. McWILLIAMS

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Standard of New Jersey Stops Illinois Crude Movement To Atlantic Coast

Movement of Illinois crude oil to the Atlantic Coast has been discontinued by Standard Oil Co. of New Jersey. Atlantic seaboard deliveries by the company were reduced to an infinitesimal amount about a month ago. At one time the company moved 20,000 bbl. daily from Illinois to the East Coast. Advance of 10 cents a barrel in the Illinois crude price, bringing cost at the well up to $1.15, elevated the laid-down cost at Atlantic terminals to $1.55.

Reduction of the coastwise tanker rates to 18 to 20 cents per barrel gives Gulf Coast crudes an economic advantage over Illinois basin oils.

Canadian Petroleum Imports

OTTAWA, Ont.—Imports of petroleum, asphalt and their products into Canada in May were appraised at $6,755,938 compared with an April valuation of $3,823,102. Imports of crude petroleum in May were 148,100,304 gal. compared with 76,091,470 gal. in April. Exports of petroleum and its products increased from a value of $9,254 in April to $80,108 in May.

International

China . .

Synthetic-Oil Plant Is Making Good Progress

THE Chinese National Government's synthetic-oil plant at Chungking which converts rape seed, tung oil and other vegetable oils into gasoline, diesel oil and lubricants is making satisfactory progress despite physical handicaps, according to a recent article in the Hong Kong, China, Air Mail. The handicaps are principally the production of machinery under almost primitive conditions and the unfamiliarity of research workers with the processes involved.

Monthly production rates of the plant are estimated at 12,500 gal. of gasoline; 1,000 gal. of lubricating oil, 4,000 lb. of grease and close to 100 tons of diesel oil. Production of the latter began last summer and it is being used locally for powering buses. The plant is an experimental unit and is intended as a base for larger operations when the difficulties encountered in the pilot plant are corrected.

The Shanghai press, according to Asst. Commercial Attache A. Bland Calder, reports that the Manchurian Government is preparing to resume oil-exploration work in the Jalainor Lake region near the Siberian border in the near future. Preliminary surveys, including diamond-core drilling, are reported to have found that several sands, up to a depth of 500 meters, have a good oil content.

Turkey . .

Commercial Production Appears Established

COMMERCIAL oil production in Turkey appears to have been definitely established, though full details have not been transmitted from authoritative sources in that country.

Cevat Eyub Tasman, director of the petroleum division of the Institute of Mineral Exploration and Research, a geologist with experience in the United States and Mexico, has reported some of the information upon which is based the conclusion that commercial production has been discovered. The discovery well, first commercial reward of several years spent in exploring various parts of Turkey, was completed at about 3,400 ft. It is 12 miles south of Besiri in the Vilayet of Siirt, about midway between Diyarbekir and Siirt, in the east central part of the country.

The prospect for the well and the general geological configuration are, Mr. Tasman reported, very promising, but it will be impossible to know the extent of the field until the drilling of additional wells has been completed. If the work is not interrupted, this should be in about 1 year. A favorable circumstance in connection with the apparent discovery is that it is located about 7 miles from the railway now under construction from Diharbekir to the Iranian frontier by way of Lake Van. The probable field is approximately 300 ft. higher in elevation than the railway right-of-way which will permit gravity loading of tank cars. Drilling has been conducted in Turkey in an effort to find oil for the past 7 years but the present discovery offers the first tangible encouragement. Exploratory drilling is now under way in the Vilayets of Van and Adana. Van is on the eastern side of Lake Van and within a few miles of the inland body of water. Adana is in the extreme south-central part of the country.

The exploratory program prosecuted over the past 7 years despite repeated failures has been prompted by the country's eagerness to become independent of outside supplies. Turkey's consumption is comparatively small and until the European war outbreak supplies were shipped chiefly from the United States, Soviet Russia and Rumania. Imports in 1936 totaled 1,092,000 bbl.; receipts in 1937 were 1,024,000 bbl., and in 1938, 1,262,000 bbl. In 1933, the Turkish Government established the Institute for Prospecting for Petroleum Deposits (Petrol Arama Institusi).

In recent years exploration has been concentrated in the district of Siirt in eastern Anatolia, not far from the Turco-Iraq frontier and in the Adana district in the southern part of the country.

In Turkish political and economic circles the importance of the new discovery is emphasized. There is a deep-seated policy prohibiting international companies from obtaining interests in Turkey's prospective oil lands.

Portugal . .

Sacor Obtains Virtual Monopoly of Petroleum

A SUBSTANTIAL interest in the exploratory program of Anglo-Portuguese Oil Co., covering all of Portugal, has been acquired through a purchase of stock of Sociedade Anonima Concessionaria da Refinacao de Petroleos em Portugal, of Lisbon, commonly known as Sacor.

Acquisition of the interest in Anglo-Portuguese give Sacor a virtual monopoly on the petroleum industry in Portugal. Sacor, organized under state auspices with the participation of the Redeventza Co. and of French capital, was assured 50 per cent of the Portuguese market for all products for a minimum period of 20 years.

The new refinery built by Sacor at Cabo Ruivo, near Lisbon, was considered complete at the end of 1939 but the first crude oil imported by Portugal was discharged in April. Portugal previously approved a policy of importing required finished products received chiefly from the Netherland West Indies and the United States. The refinery, now reported on regular operating schedules, has a capacity of 5,000 bbl. daily and is equipped to produce all finished products. In exchange for the guarantee of 50 per cent of the nation's market requirements for 20 years the refining company assumed obligation to maintain reserve stocks at least one-third of the refining capacity.

The Anglo-Portuguese company has the exclusive concession for oil exploration in Portugal for a period of 50 years. So far, the company has drilled one test at Torres Vedras, 34 miles north of Lisbon, and the concern claims to have obtained a substantial showing of oil around 2,500 ft. Reports on the extent of the showing vary. Some consider the showing insignificant while others claim that, if exploited, it would amount to 50 to 80 bbl. daily.

Plans of Anglo-Portuguese call for additional test drilling near Monte Real and Belas.

Portugal's petroleum requirements amount to about 1,500,000 bbl. annually. Products imported in 1938 and 1939 and in the September to February periods of the 2 years, which cover early months of the European war, are shown below, figures in U. S. barrels:

Products—	1938	1939	Sept.-Feb. 1938-39	Sept.-Feb. 1939-40
Gasoline	605,000	627,000	318,000	270,000
Kerosene	384,000	390,000	211,000	222,000
Lubricating oils	80,000	74,000	36,000	59,000
Gas oil and fuel oil	471,000	387,000	220,000	274,000
Other products	30,000	21,000	18,000	23,000
Total	1,570,000	1,499,000	803,000	848,000

Portugal is one of the few remaining continental European countries to which American flag boats are permitted to sail and petroleum shipments there are restricted only by the prohibition on aviation-gasoline exports and by license regulations on other specified products. The import data do not reflect any material increase in the petroleum receipts in the first 6 months of the European war that would mark Portugal as a point of transshipment for either the Allies or Axis powers.

Netherland Indies . .

Petroleum Production Sets a New Record

OFFICIAL statistics show that petroleum production in the Netherland Indies last year, totaling nearly 8,000,000 metric tons, established a new high record," a report from Vice Consul M. C. Parsons, Jr., at Batavia, states. "This total represents 2.8 per cent of the aggregate world production in 1939 and indicates that the area has maintained its position as the world's fifth most important crude-oil producer.

"The Royal Dutch-Shell is the outstanding factor in the colony's oil production, accounting for 56½ per cent of the 1939 aggregate output. An American-owned company ranged second with 16 per cent while the balance was accounted for by a government-owned company and a number of minor producing units.

"Petroleum products exported from the Netherland Indies in 1939 amounted to 6,425,561 metric tons, a slight increase as compared with the preceding year. Australia was the largest single market, followed by Egypt and China. It is of interest to note that the petroleum products of the Netherland Indies find their way to practically every corner of the world."

Rumania . .

Rumanian Crude Production Declines 3 Per Cent in April

RUMANIAN crude-oil production in April totaled 3,708,075 bbl., a decline of 3 per cent from the March output of 3,819,650 bbl. The Prahova district accounted for 2,463,795 bbl. of the Rumanian output in April.

Stocks of crude at the end of the fourth month totaled 1,299,835 bbl., which is 32 per cent higher than a year ago.

Figures on exports of Rumanian oil are not available beyond the first 3 months.

Crude-Oil Price Advance General Throughout Midwestern States

CRUDE-oil price advances launched August 21 by the Texas Co. in the Illinois basin have since spread to Central Michigan, Kentucky, eastern Illinois and western Kentucky.

Advances in postings were 10 cents per barrel except in the eastern Illinois and western Indiana fields where the increase was 5 cents. The higher prices apply to approximately 450,000 bbl. of daily crude production and mean that producers' income has been boosted by approximately $4,300 daily.

Declining production in Illinois forcing refiners and purchasers in that area to rely more heavily upon crude supplies from more remote sources, thereby increasing transportation costs, was the economic cause of the crude advance.

Competition for crude connections in the Illinois basin district has been active since the peak-production figure of 518,000 bbl. daily was reached in the latter part of June. Even when Illinois production remained above 450,000 bbl. daily there was a firm demand for approximately 60,000 bbl. of additional oil.

Last week's advances lifted Illinois postings to $1.15 per barrel; crude in western Indiana and eastern Illinois is now posted at $1; Kentucky oil brings up to $1.20 and Central Michigan production is now posted at a top of $1.12 ranging down to 81 cents for heavy crude in the Clare district.

In addition to the Texas Co., purchasers advancing Illinois basin crude 10 cents include Ohio Oil Co., Pure Oil Co., Sohio Corp., Magnolia Petroleum Co., Gulf Refining Co. and Carter Oil Co.

Ohio Oil Co. advanced eastern Illinois and western Indiana crude 5 cents at 7 a.m. August 23 making the flat price $1 per barrel.

Central Michigan crude was advanced 10 cents at 7 a.m. August 23 by Pure Transportation Co., Leonard Pipe Line Co. and Bay Pipe Line Co. New prices are: Midland grade, $1.12; Temple, $1.07; Sherman, Freeman-Redding, $1.07; Buckeye-Bentley, $1.10; Saginaw, Wise, $1.12; and Clare heavy, 81 cents, the latter price being an advance of only 5 cents. Southwestern Michigan crudes were unchanged at a base price of $1.08.

Ashland Oil & Transportation Co. increased Somerset crude oil 10 cents at 7 a.m., August 21, making Kentucky River production, $1.20, and Big Sandy River production, $1.12 per barrel.

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Dismemberment Not Solution to Ills of Industry, Speaker Warns

CHICAGO, Aug. 27.—Solution of the oil-marketing problems by application of the creative genius and inventive intelligence which has proved so successful in other branches of the petroleum industry was urged here August 21 by Paul Ryan, president of the National Refining Co. Mr. Ryan addressed the National Association of Petroleum Retailers which held its annual meeting here last week.

Dismemberment of the industry as currently advocated is not the answer to the industry's problem, Mr. Ryan declared. Removal of the experienced guidance which would result from such action, he said, would only aggravate the problem. Improvement of quality of the guidance in the marketing branch of the industry was advocated as an alternative.

Progress along the lines recommended is being made. Mr. Ryan referred to recent appointments as chief executives of some companies of marketing men as confirmation of his contentions.

"Evolution of skilled, profit-conscious marketing executives should," he said, "go a long way toward eliminating pressure of troubles similar to those which have now befallen the industry."

Pressure on the modern marketing executive in the industry to make profits from operations is causing him to eliminate unprofitable procedures and practices before they are eliminated either by legislation or by his stockholders, Mr. Ryan said.

The broad field of effort open to petroleum marketers was reviewed by Dr. Gustav Egloff, director of research, Universal Oil Products Co., who cautioned the industry to combat influences tending to curtail consumption of oil. He based his conclusion that the marketing field offers wide possibilities on the increase in per consumption of motor fuel. The average motor vehicle consumption has increased from 502 gal. in 1925 to 725 gal. in 1939. Dr. Egloff listed the more serious obstacles to consumption as follows:

The recent policy of railroads in offering luxurious trins at low cost on time payments.

The growing tendency to increase gasoline taxes out of proportion to the levies on other commodities.

The tendency in some states to set up unwarranted and arbitrary specifications for gasoline.

The persistent drive to compel the use of alcohol in motor fuel.

The marketing branch of the industry was called upon by Judge Harry H. Porter, chief justice of the Evanston Municipal Court, to aid in reducing winter-driving accidents. A contribution, Judge Porter said, would be installation of tire chains by service stations for motorists at a small fee.

DEATHS

VINCENT M. MONAHAN, 46, secretary and general manager of the Eastern Asphalt Co., died suddenly in Trenton, N. J., August 22.

PETER HUGGLER, 70, retired employe of the United Natural Gas Co., died suddenly at his home at Belltown, near Sigel, Jefferson County, Pennsylvania, August 20.

JOHN EHLER, 92, pioneer Shippenville, Pa., merchant and oldest resident, who was employed at Elk City and Knox during the early oil excitement in Clarion County, died at his home August 20.

WARREN DIXON ELLIS, 91, of New York, former president and one of the founders of the Valvoline Oil Co., died at his summer home in Larchmont, N. Y., August 22. He is survived by his wife, Mrs. H. Delta Ellis.

J. J. TAXMAN, president of the Advance Refining Co., Centralia, Ill., died August 22 in a Chicago, Ill., hospital. Mr. Taxman, as president, was associated with his brother, Mike Taxman, and his son, Maynard, in the operation of the Taxman refinery at Wichita Falls, Tex., until about 3 years ago.

MARK M. SENNETT, 63, traffic manager of the Olean, N. Y., office of the Socony-Vacuum Oil Co., Inc., died in St. Francis Hospital, Olean, August 21, after a brief illness. Born in North East, Pa., he located in Olean in 1902 and was employed by Socony-Vacuum for a number of years. He leaves his widow, two sisters and two brothers.

JOSEPH HUGHES, 51, well-known oil operator in the Bolivar, N. Y., district, died in a Long Beach, Calif., hospital, August 19, following an appendectomy suffered while on an auto trip to the Pacific Coast. He was the guest of friends in Whittier when stricken. He was a member of the firm of the Genesee Oil Co., at Pikeville; Hill, Hughes & Keller at Daggett Hollow, and Hughes Brothers, Coon Hollow. He is survived by his widow, three children, two brothers and a sister.

MARTIN O'DONNELL, 48, manager of purchases and merchandise of Oil Well Supply Co., died at Dallas, Tex., August 20, following an operation. He was born in Ireland and in 1920 came to America, where he joined the Wilson-Snyder Manufacturing Corp. This brought him into the Oil Well organization when Wilson-Snyder became a subsidiary of Oil Well Supply Co. in 1929.

DENIS ALEXANDRE COSTE, 79, founder of the natural-gas industry in Canada, died at Chatham, Ont., on August 18. In 1889, in conjunction with his brother, the late Eugene Coste, he successfully prospected for natural gas in Essex County, Ontario, and later in the same year drilled the first commercial gasser in Welland County. He was director and first vice president of the Volcanic Oil & Gas Co., and was also for many years president of the Provincial Natural Gas, Light, Heat & Power Co., operating in the Niagara district.

T. S. MAFFITT, SR., chairman of the executive committee and member of the board of directors of Houston Oil Co., and the Houston Pipe Line Co., died of a heart attack at Estes Park, Colo., on August 16. Mr. Maffitt was born in St. Louis, Mo., March 6, 1876, and was elected a director of Houston Oil Co. in 1917, and was a director of the Houston Pipe Line Co. since its organization in 1925. He served as chairman of the executive committee of the two companies since 1928.

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Joe T. King, Kingwood Oil Co. President, Is Dead

Joe T. King, president of the Kingwood Oil Co., Effingham, Ill., died last week following a gall-bladder operation at the Mayo Clinic, Rochester, Minn.

Mr. King was born at Duke Center, Pa., in 1882. His experience in the oil industry began in Sistersville, W. Va., where he worked as a tool dresser. He attended Duquesne University in Pittsburgh, Pa., at which institution he gained quite a reputation for his athletic prowess.

In 1908 he went to Okmulgee, Okla:, where he entered the drilling contracting business, and where he formed a drilling partnership with M. L. Carr and his brother, Frank. This business endured until 1914, when with W. E. Wood, he formed the Kingwood Oil Co. Mr. King acquired Mr. Wood's interest in the firm in 1928. The Kingwood company, which had its headquarters in Okmulgee, Okla., drilled 600 wells in Texas and Oklahoma, which have produced approximately 12,000,000 bbl. of oil.

Headquarters of the company were moved to Effingham in 1937, and the company is today one of the largest operators in the Illinois basin, and is credited with the discovery of several pools, including Devonian production in the Lake Centralia-Salem field. Mr. King had the personal distinction of having drilled more Illinois wildcats than any other individual or firm.

Railroad Commission Issues 1939 Annual Texas Report

AUSTIN, Tex.—In its first annual report compiled since 1936, the Railroad Commission's 443-page book published last week offers a comprehensive statistical survey of Texas oil and natural-gas operations, natural-gasoline plants, carbon-black plants, gas-recycling plants, and refineries. Monthly production of all oil and gas fields in the state is given for 1939 with the fields cumulative production to January 1, 1940, and the number of flowing and pumping wells in each field.

Natural Gasoline

Construction of Plant At Opelika Started

DALLAS, Tex.—Preliminary construction of a combination gasoline and gas-recycling plant on their holdings in the Opelika field of Henderson County, East Texas, has been started by Lone Star Gas Co. and Shamrock Oil & Gas Co. The Shamrock company has charge of operations. The plant will have a gas capacity of approximately 30,000,000 cu. ft. daily, will be of the compression type, and is expected to cost between $150,000 and $200,000. Ground is being broken, storage tanks erected and houses are being built. Construction of the plant will take 6 months to complete.

Will Build Recycling Plant In Cotton Valley Field

Contract for construction of a 150,000,000-cu. ft. recycling plant will be signed this week by the Operators Committee of the Cotton Valley field, North Louisiana. The new plant is made possible through unitization of the entire Lower Marine production of the field and the placing of authority as operator, the committee, which will supervise erection, operation, and maintenance of the pressure-maintenance project.

The recycling plant will operate on the high-pressure absorption method at 1,500 lb. per sq. in. Three large absorbers will handle the gas, which will be recompressed and returned to the reservoir by a bank of twelve 600-hp. compressors. The fractionation and stripping section of the plant will produce an estimated 9,000 to 10,000 bbl. of stabilized distillate and about 1,500 bbl. of normal and isobutane daily. Contractor for the plant is the Hudson Engineering Co., Houston, Tex., which will construct the plant on a turn-key basis. Contract for laying of the high-pressure field-line system has not yet been let. The plant is expected to be in operation in February or March 1941.

Gas Recycling Increasing In East Texas District

AUSTIN, Tex.—A total of 25 natural-gasoline plants, 9 recycling plants, and 3 gas-repressuring plants were in operation during June in eastern Texas the Railroad Commission reports revealed last week. This was one less natural-gasoline plant and two more recycling plants than were in operation during April. The 25 natural-gasoline plants were connected to 25,472 oil wells and 168 gas wells, as compared with the 26 plants connected to 24,479 oil wells and 213 gas wells in April. The plants recovered an average of 1.50 gal. of natural gasoline per 1,000 cu. ft. in June as compared with 1.61 gal. per 1,000 cu. ft. in April.

The 12 recycling and repressuring plants in June were connected to 58 gas wells and injected gas into 22 input wells. Intake volume was 222,777,000 cu. ft. in June as compared with 183,735,000 cu. ft. in April, while production in June averaged 190,427 gal. daily as compared with 162,015 gal. in April.

Research on Use of Alcohol As Motor Fuel to Continue

The desirability of using alcohol as a motor fuel will continue to be subject to official scientific and political debate for some years to come, it is apparent from the announcement of the Department of Agriculture that "alky-gas" will be one of the principal subjects to be studied by the new research laboratory to be opened in Peoria, Ill., in a couple of months.

In making this announcement the department referred to previous publications on this subject by its own scientists which, while not taking a very positive stand, showed rather conclusively that the use of alcohol as a motor fuel is not economically feasible until there is a radical change in the price relationships between corn and crude oil. The fact that the department will make further studies of the subject in spite of the rather discouraging findings of its own experts suggests that it may be influenced by political pressure to find some way of developing a profitable industrial market for farm wastes and low-priced crops capable of yielding alcohol. On the other hand, these investigations may result in finding some better uses for corn alcohol than as a substitute for gasoline, in which case the oil industry would be permanently freed of the periodic political efforts to force the use of "alky-gas" through discriminatory tax legislation.

Natural Gas

Output of Amarillo Helium Plant Passes 100,000,000 Cu. Ft.

WASHINGTON, D. C.—The U. S. Government plant near Amarillo in the Texas Panhandle recently completed the extraction of 100,000,000 cu. ft. of helium from natural gas the Bureau of Mines has reported. Figures compiled by the bureau show that the plant has produced 100,012,000 cu. ft. during its operating life of a little more than 11 years, which amounted to about 50 per cent of its potential capacity. The plant is prepared to meet any demands for helium from the Army and Navy in the national defense program, the bureau said.

Guthrie Gas Hearing Is Set for September 10

OKLAHOMA CITY, Okla.—The Corporation Commission has set September 10 for hearing an application of the Guthrie Gas Service Co. to discontinue service in Guthrie. Petition filed with the commission claims the company has lost all its paying customers to a competitor, Guthrie Gas Utilities Co.

Two Companies Attack Carbon-Black Tax in Texas Court

AUSTIN, Tex.—Validity of the statute under which carbon-black taxes are levied in Texas was attacked last week by two companies filing suits in Travis County District Court seeking a total refund of $30,006 paid under protest over a 4-month period. Cabot Carbon Co. sought a refund of $20,785 while the other company, Texas-Elf Carbon Co. sought a return of $9,221.

Commission Orders Gas-Rate Cut for Rio Grande Valley

AUSTIN, Tex.—A new schedule fixed by the Railroad Commission, and to which the Rio Grande Valley Gas Co. agreed, became effective in 17 cities in Southwest Texas last week. The gas-rate reductions were estimated to save 9,700 customers about $25,000 annually, and in addition Harlingen users were refunded about $2,800. The rate was formerly 98 cents per 1,000 cu. ft., with a minimum bill of $1.50, while the new rate establishes a charge of $1.50 for the first 1,700 cu. ft. with a charge of 80 to 70 cents per 1,000 cu. ft. over that, depending on the volume used.

Refinery Expansion

Illinois Skimming Plants Feeling Oil Shortage

CENTRALIA, Ill.—Despite a 5-cent increase in the posted price of Wabash Valley crude, two small refineries in the area of Evansville, Ind., continue to operate at near-capacity production, although they are beginning to feel the pinch for "distress" oil. Shortage of distress oil has forced three refineries in the Centralia area to close. The two refineries near Evansville are the Evansville Refining Co., handling about 1,700 bbl. of crude daily, and the Indiana Farm Bureau Cooperative Association, which is handling about 2,600 bbl. daily.

New Clay-Treating Plant Placed in Operation

Republic Oil Refining Co. has placed in operation at its Texas City, Tex., refinery a new Gray clay-treating plant. The treating plant was installed to handle gasoline production from a recently commissioned addition to the cracking capacity of the Republic refinery. The new Gray treater incorporates innovations in design and represents most modern installation of the process.

Standard of Ohio Starting Expansion Program

CLEVELAND, Ohio.—Standard Oil Co. of Ohio is starting construction of a new catalytic polymerization unit at its refinery here as part of an expansion program calling for expenditures of $1,000,000. The new poly unit and eight additional storage tanks at Cleveland will involve expenditures of $200,000 to $300,000. The company will also revamp and add to its plants at Lima, Ohio, and Latonia, Ky. The Cleveland plant has a present crude capacity of 23,000 bbl. daily, with a 13,000-bbl. cracking capacity; the Lima plant has a crude capacity of 8,000 bbl. and cracking capacity of 5,000 bbl.; while the Latonia plant has 11,000-bbl. crude capacity with a cracking capacity of 11,500 bbl. daily.

Install Catalytic Polymerization Unit

The Texas Co. is installing a catalytic polymerization plant at its Casper, Wyo., refinery involving expenditure of approximately $100,000.

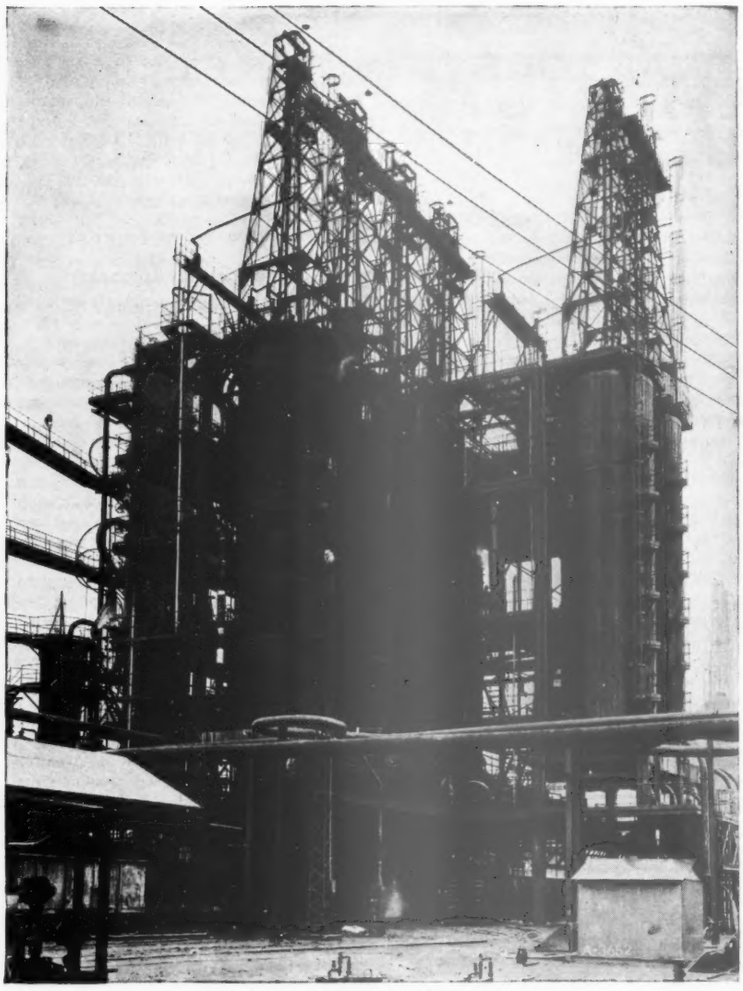
Imperial Construction at Sarnia

SARNIA, Ont.—Imperial Oil, Ltd., has let the contract to the Canadian Kellog Co. of Montreal for construction of a new crude-running and coking plant in connection with its Sarnia refinery. The new plan will replace equipment in use for about 25 years and will be available by April 15, 1941.

Independent Refining Co. Will Add Polymerization Unit

Absorber and stabilizer equipment and a catalytic polymerization unit will be added at the Independent Refining Co.'s plant at Arp, Tex. The catalytic polymerization plant will produce about 2,000 gal. of polymer gasoline daily.

The Independent Refining Co. has acquired a license from Universal Oil Products covering its cracking plant, for conversion of the cracking plant to the Dubbs process. The agreement was executed for Independent by W. R. Skeen, trustee for the partnership, whose members are Joe B. Skeen, A. L. Skeen, Ecta Walters, Ben T. Parish, F. O. Penn, and C. W. Curtis, who is manager of operations. C. Zimmerman is refinery superintendent.



View of coke chambers at Wood River

Worthington

HYDRAULIC DECOKING

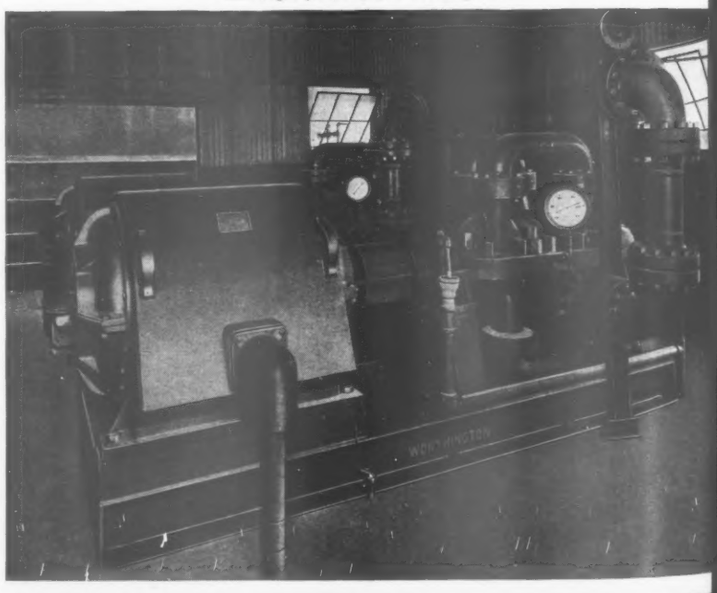
A NEW METHOD

of disrupting and removing coke from chambers on coking units . . . developed on Dubbs Unit No. 17, at Wood River.

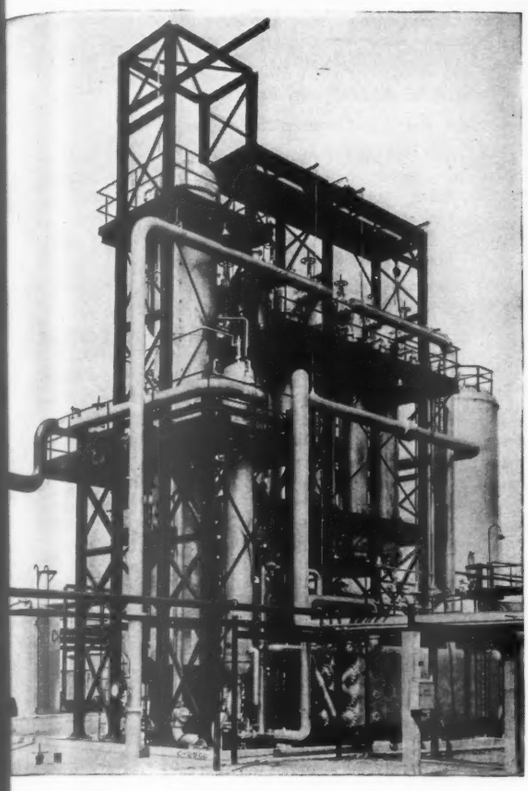
Results obtained . . .

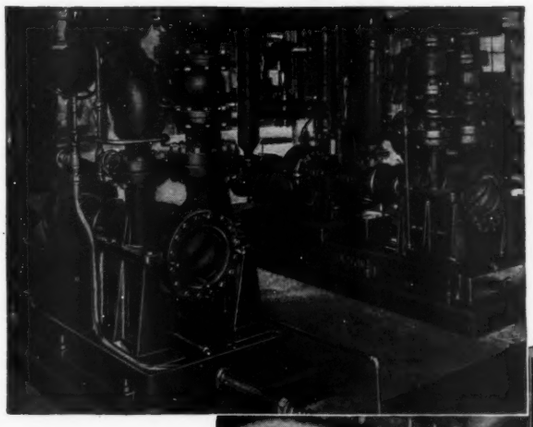
- **Cleanout time has been reduced more than 50%, thus increasing the daily throughput.**
- **Three coking chambers now handle the operating cycle formerly requiring four chambers.**
- **The cleanout crew has been reduced from 20 to 11 men.**
- **Important savings have resulted from elimination of cable, clamps, hooks, fastening wire, etc.**
- **Presence of objectionable pieces of fastening wire in marketable coke has been removed.**
- **All coke is removed from walls by the hydraulic jets. No men required for scaling.**
- **Full chamber capacity at all times. No loss due to coke clinging to walls.**
- **It is no longer necessary for the cleanout crew to enter the chamber, a notable advance in promoting health and safety.**

Two of the four Worthington high-pressure centrifugal jet pumps, in decoking service

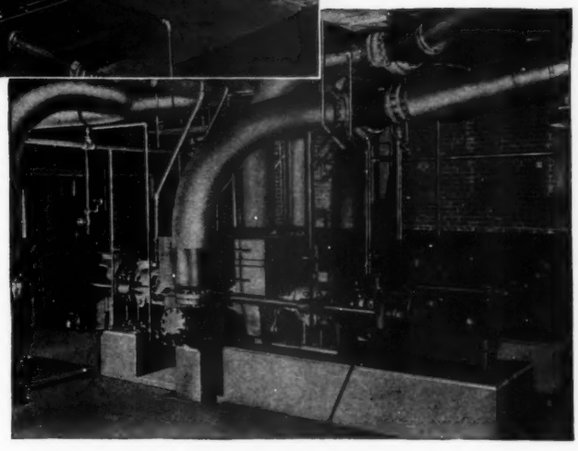


at Shell-Wood River





Two Worthington Type H centrifugal pumps, in a group of similar units, showing one driven by Moore steam turbine and one by electric motor



Left—Worthington-Carbondale absorption refrigeration unit in alkylation process service

Right—Two of the eight Worthington power-driven hot oil plunger pumps

...indicative of the complete coverage in pumping equipment, air and gas compressors, and power equipment... for practically every operation in the modern refinery.

The steadily increasing demand for Worthington products is the result of consistent performance, year after year, in a wide range of exacting services.

WORLD WIDE SERVICE
WORTHINGTON PUMP AND MACHINERY CORPORATION

General Offices: **HARRISON, NEW JERSEY** • *District Offices in every important city in the United States*

Representatives or Branch Offices in

ARGENTINA AUSTRALIA BELGIUM BRAZIL CANADA COLOMBIA ENGLAND FRANCE HOLLAND HUNGARY
INDIA ITALY PERU ROUMANIA SOUTH AFRICA SPAIN SWEDEN TRINIDAD TURKEY VENEZUELA and other territories

WORTHINGTON

PROGRAMS AND MEETINGS

American Chemical Society to Hear Papers on Petroleum Chemistry

Petroleum chemistry's contribution to the automotive industry will be featured at the 100th meeting of the American Chemical Society in Detroit, September 9 to 13. Twelve reports ranging from "Future Needs in Fuel and Oil for Motor Transport" to "The Relation of Asphalt Road Construction to the Automotive Industry" will be presented at a symposium sponsored by the society's division of petroleum chemistry of which Dr. Per K. Frolich, director of the chemical laboratories of the Standard Oil Development Co., is chairman.

Dr. Merrell R. Fenske, director of the division of industrial research at Pennsylvania State College, will preside at the symposium, which is scheduled for Tuesday, September 10. A general meeting of the division, at which 14 papers will be read, will be held on Wednesday, September 11.

A. Holmes and R. F. Phillips of the Standard Oil Development Co., Elizabeth, N. J., will read the opening paper on asphalt-road construction. A method of studying the oxidation of asphalt will be described by R. R. Thurston and E. C. Knowles of the Texas Co., New York.

Dr. T. A. Boyd of General Motors Corp., Detroit, Mich., codiscoverer with Thomas Midgley of tetraethyl lead, antiknock agent for gasoline, will discuss future needs in fuel and oil for motor transport. Chemistry offers the chief assurance, Dr. Boyd points out, that the first need, a plentiful supply of oil, and liquid fuel, will be met.

A correlation of the molecular structure of gasoline with octane rating will be attempted by Dr. Gustav Egloff and P. M. Van Arsdell of the Universal Oil Products Co. research laboratories, Chicago. The results of an analysis of three samples of refinery-cracked naphthas, representing the products of thermal cracking and polymerization processes, will be presented by R. E. Tannich, B. W. Thomas, and A. R. Padgett of the Humble Oil & Refining Co., Baytown, Tex.

S. D. Heron, Harold A. Beatty, and Charles W. Sortman of the chemical-research laboratory of the Ethyl Gasoline Corp., Detroit, will report the determination of spontaneous-ignition temperatures in air for a variety of hydrocarbons.

A group of papers will deal with petroleum lubricants. Dr. Fenske and R. E. Hersh of Pennsylvania State College will suggest methods for the segregation of any portion of a lubricating-oil distillate. L. L. Davis, Bert H. Lincoln, G. D. Byrkit, and W. A. Jones of the Continental Oil Co., Ponca City, Okla., will speak on the oxidation of petroleum lubricants. Wear-prevention agents of a chemical nature will be described by Otto Beeck, J. W. Givens, A. E. Smith and E. C. Williams of the Shell Development Co., Emeryville, Calif.

The widespread use of synthetic agents which, added to conventional lubricants, give special properties to the product will be reviewed by Dr. F. L. Miller, W. C. Winning, and J. F. Kunc of the Standard Oil Development Co. Modern gasoline and diesel engines, particularly under heavy-duty operating conditions, have created lubricating problems making these additives essential for satisfactory performance, the chemists point out.

New types of metal organic addition agents for lubricating oils developed from alkylated phenolic compounds will be the subject of O. M. Reiff of the Socony-Vacuum Oil Co., Paulsboro, N. J.

Large quantities of petroleum products will be consumed in making lubricating and processing oils in the industries involved in the preparedness program, according to J. C. Zimmer and E. W. Carlson of the Standard Oil Development Co., who will outline the variety of individual uses of emulsifying agents, fatty oils, extreme pressure agents, inhibitors, and other similar materials. The oils not only employ petroleum and its by-products but many special compounds.

Speakers at the general meeting of the division and their topics will be as follows:

W. J. Sweeney and E. H. McArdle, Standard Oil Development Co., "Highly Aromatic Petroleum Solvent Naphthas"; Dr. Fenske, C. E. Stevenson, R. A. Rusk, N. D. Lawson, M. R. Cannon, Glenn Herbolsheimer, and E. F. Koch, Pennsylvania State College, "Oxidation of Lubricating Oils"; A. W. Burwell and J. A. Camelford, Alox Corp., Niagara Falls, N. Y., "Some Effect of Chemical Composition on Lubricants Operating in the Region of Boundary Lubrication"; W. A. Lutz, Gulf Research & Development Co., Pittsburgh, Pa., "The Effect of Temperature on the Consistency of Lubricating Greases"; Edwin R. Littmann and J. R. M. Klotz, Stanco, Inc., New York, "The Manufacture, Properties, and Uses of Naphthenic Acids"; S. W. Ferris, Atlantic Refining Co., Philadelphia, Pa., "Petroleum Equilibria."

Also M. R. Lipkin and S. S. Kurtz, Jr., Sun Oil Co., Marcus Hook, Pa., "The Number of Carbon Atoms in Naphthene Rings Calculated From Density"; W. F. Seyer and B. R. Mead, University of British Columbia, "The Specific Heats of Liquid Cis and Trans Decahydronaphthalene"; Maurice L. Huggins, Eastman Kodak Co., Rochester, N. Y., "Densities and Refractive Indices of Liquid Paraffin Hydrocarbons"; Cecil E. Boord and Albert L. Henne, Ohio State University, "The Preparation of Pure Octanes"; Gilbert E. Goheen, Sun Oil Co., experimental division, Norwood, Pa., "The Synthesis of Polycyclopentylcyclopentanes"; M. S. Agruss, George W. Ayers, Jr., H. Schindler, Pure Oil Co., Chicago, "Detection, Determination, and Identification of Organic Halogen Compounds in Mineral Oils"; Karl Uhrig and Harry Levin, Texas Co., Beacon, N. Y., "Determination of Bromine Addition Number."

Will Commemorate Tenth Anniversary Of East Texas Oil Field

The East Texas Chapter of the American Petroleum Institute will sponsor, in cooperation with other professional societies, the East Texas Oil Festival October 10, 11, and 12, commemorating the tenth anniversary of the discovery of oil in East Texas. The festival is to be held in Kilgore. Opening the celebration will be a meeting at 8 p.m. October 9, in the Kilgore High School at which the subject of discussion will be "The Petroleum Industry and National Defense." An address on this subject will be given by an outstanding speaker. The East Texas section A.I.M.M.E., the East Texas Geological Society, and other organizations are cooperating in sponsoring this festival.

Michigan Petroleum Association To Hold Fall Convention

The Michigan Petroleum Association will hold its fall convention at Traverse City September 17 and 18, according to Mable I. Kipp, acting secretary. Sessions will be held at the Park Place Hotel.

Petroleum Division A.I.M.M.E. Meeting Plans Nearly Complete

Plans for the divisional meeting of the petroleum division, A.I.M.M.E., to be held in Tulsa, October 24-26, are nearing completion with receipt of several of the papers to be presented and tentative plans outlined for program and entertainment.

W. S. Morris, chairman of the program committee, announces that the technical sessions will comprise presentation of 21 papers, dealing with a wide range of subjects. Among the topics to be discussed are: crude-oil and gas-reservoir studies; laboratory study of cores; crude analyses and sampling methods; cementing; pressure maintenance, recycling, condensate recovery, and related subjects; proration; well spacing; temperature surveys; well shooting and education. Papers on these subjects will be given by outstanding engineers and technologists.

Entertainment will include a dinner dance and a trip to some nearby place of interest.

N.P.A. Announces Program Of Annual Convention

The National Petroleum Association will hold its thirty-eighth annual meeting at the Hotel Traymore, Atlantic City, N. J., September 18-20, 1940. The following program has been announced.

Wednesday Morning, September 18

9 a.m. (Daylight-saving time).

DEPARTMENT OF TAXATION

(Rose Room—Program to be arranged).

DEPARTMENT OF FIRE AND ACCIDENT PREVENTION

Meeting of executive committee.

Wednesday Afternoon, September 18

2 p.m. (Daylight-saving time).

President's address, N. H. Weber, president, National Petroleum Association.

Appointment of committees.

"Pennsylvania Oils for National Defense," Cary R. Wagner, Pure Oil Co.

"Washington Observations," Ray Tucker, Washington correspondent and columnist.

"The Future of Our Foreign Trade," Eugene P. Thomas, president, National Foreign Trade Council.

Report of nominating committee.

Election of trustees.

Wednesday Evening, September 18

8 p.m. (Daylight-saving time).

Board of trustees meeting.

Thursday Morning, September 19

9 a.m. (Daylight-saving time).

DEPARTMENT OF MANUFACTURE

(Program to be arranged).

DEPARTMENT OF TRAFFIC AND TRANSPORTATION

"The Transportation Act of 1940," (Speaker to be announced).

Thursday Afternoon, September 19

2 p.m. (Daylight-saving time).

"The Petroleum Economic Outlook," Joseph E. Pogue, vice president, Chase National Bank.

"Civil and Military Aviation," Robert H. Hinckley, assistant secretary, Department of Commerce.

"Progress in Preparedness," W. Averell Harriman, liason officer, National Defense Commission.

Thursday Evening, September 19

6:30 p.m. (Daylight-saving time).

Fellowship banquet—Hotel Traymore. H. V. Kaltenborn to give his regular broadcast from banquet, through the courtesy of Pure Oil Co.

Entertainment program (to be announced later).

Friday Morning, September 20

11 a.m. (Daylight-saving time).

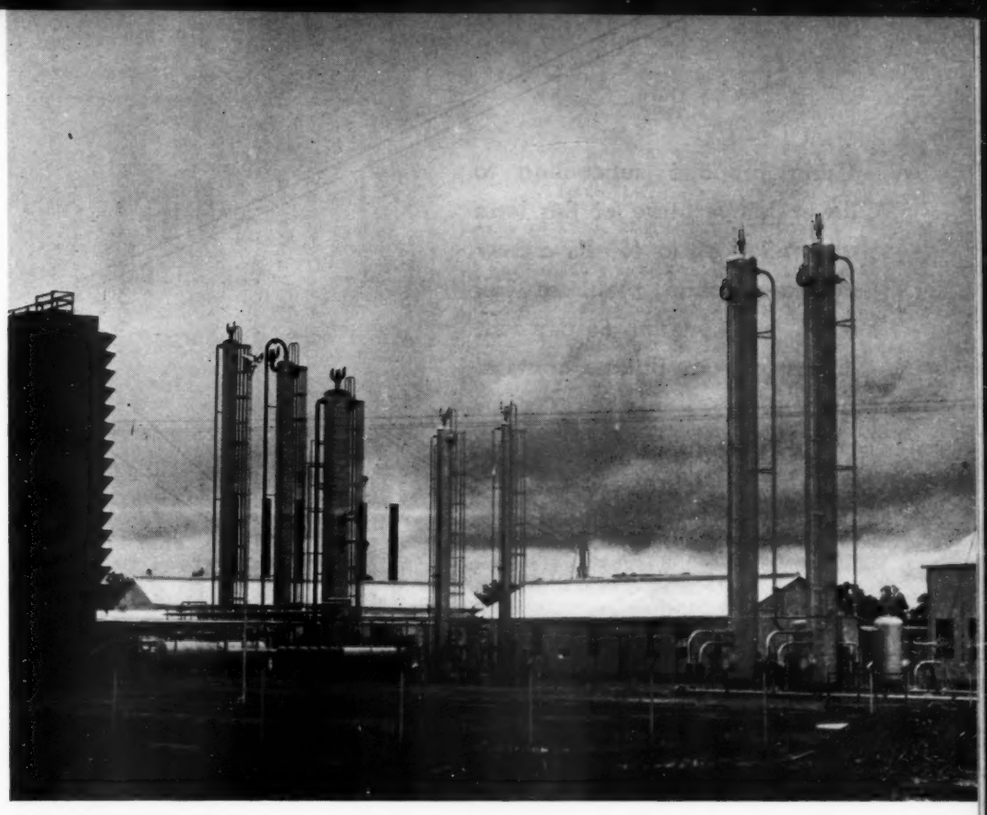
Seaview breakfast. Members and their friends will be guests of the association.

East Texas Section A.I.M.M.E. Will Meet September 10

The East Texas section, A.I.M.M.E. will hold a dinner meeting in the Kilgore Hotel, Kilgore, at 7 p.m. September 10. Following dinner, E. O. Bennett, chief engineer, Continental Oil Co., Ponca City, Okla., will address members on the topic 'Trends and Observations in Pressure-Maintenance Practice." The paper will be followed by a discussion. All committee members for the coming year for the East Texas section have been named by the executive committee.

Postpone Marketing Meeting

The tentatively scheduled meeting of the Central Regional Marketing Committee of the marketing division of the American Petroleum Institute, scheduled for September 10, at the Palmer House, Chicago, has been postponed indefinitely, according to Chairman B. L. Majewski.



Gas recycling for recovery of condensate fractions is steadily accounting for more of Texas' oil production as new plants are continually being placed in operation. Whereas most of the first plants placed in operation recovered condensate by stage-reduction of pressures, newer plants utilize high-pressure absorption, refrigeration and other methods. A view of a new plant recently completed by Hunt Oil Co. in the Long Lake field of East Texas is shown here; beginning on Page 59 a description of the plant is given

ENGINEERING & OPERATION

AUGUST 29, 1940

Propane Cooling Used at New Jal

Using propane subcooling to lower temperature of the lean absorption oil to 45° F., a new natural-gasoline plant at Jal, N. M., is recovering 65 per cent of the raw-gas butane content.

By D. H. STORMONT

THE El Paso Natural Gas Co.-Phillips Petroleum Co. natural-gasoline plant, located approximately 6 miles northeast of Jal, N. M., was recently placed in operation. It is of the low-pressure absorption type, is thoroughly modern in design and several advanced features are incorporated in the processing equipment. The plant is operated by the El Paso Natural Gas Co. and casinghead gas under contract to both El Paso Natural and Phillips Petroleum Co. is processed.

The new plant was designed for handling 85,000,000 cu. ft. of gas daily in the low-compression stage, recovering 65 per cent of the butane content and 99 per cent of the pentanes and heavier hydrocarbons during summer weather. The supply of gas to the absorbers is at 70-lb gage so that to produce the required amount of butanes it is necessary to subcool the lean oil to 45° F. The subcooling is accomplished by use of refrigeration using propane as a refrigerant.

Integral units of the plant consist of a 10,200-hp. main compressor station, of which 9,000 hp. are used in first-stage compression and 1,200 hp. for boosting the pressure of a portion of the residue gas from 70 to 550-lb. gage; a 1,050-kw. power plant; a 1,020-hp. boiler plant; a water-treating plant; and absorption, distillation, stabilization and auxiliary equipment for producing butanes and various grades of natural gasoline. Compression equipment for an experimental repressuring project is also installed at the plant.

Gas-Gathering System

Gas processed in this plant is gathered from the Langlie, Mattix, Jal and Stuart areas of the Lea County fields, some of the gas being sour and some sweet. Raw-gas analyses vary considerably on the gas being handled, and on charcoal tests recoveries of from 0.3 to 1.75 gal. per 1,000 cu. ft. are had. A typical analysis of the composite gas at the inlet of the plant is shown in Table 1.

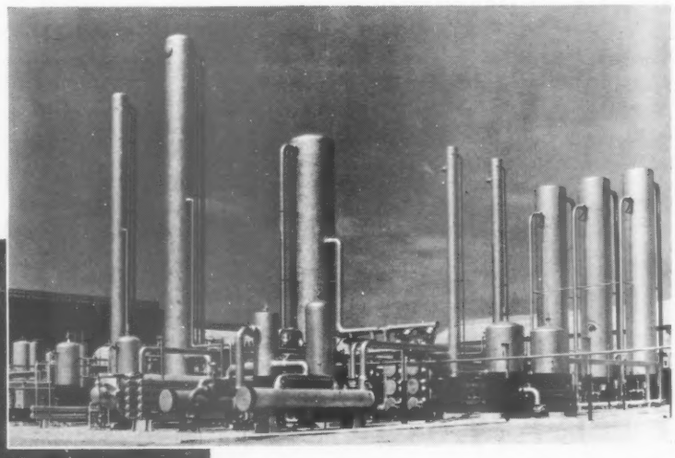
In general, operation of the plant's natural-gasoline facilities is conventional, a simplified flow diagram of which is shown on Page 35. Incoming wet gas from the field is led to the plant through 65 miles of field lines varying in size from 4 in. to 30 in. in diameter. The main lines, one 30-in. sour-gas line and a 26-in. sweet-gas line, unite in the plant yard to form a header. Pressure on the sweet-gas side is held above that on the sour-gas so that sweet gas in excess of pipe-line requirements may feed through a block valve into the sour side. A pressure-differential gage indicates the pressures on the two sides. Entrained crude oil, water, and condensate are removed in scrubbers placed in the two main lines leading to the plant before the gas reaches the 30-in. header from which the compressors take their suction.

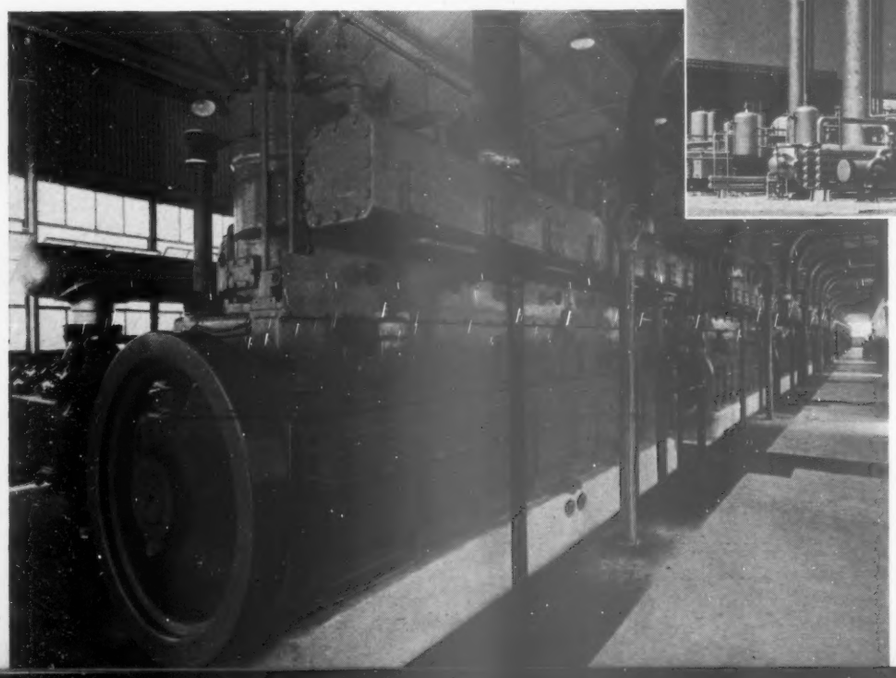
TABLE 1—TYPICAL ANALYSIS OF COMPOSITE GAS

	Gas vol. mol per cent
Carbon dioxide	.90
Nitrogen	.64
Methane	84.20
Ethane	6.81
Propane	3.73
Isobutane	.61
n-Butane	1.29
Isopentane	.17
n-Pentane	.72
Hexanes	.49
Heptanes	.44

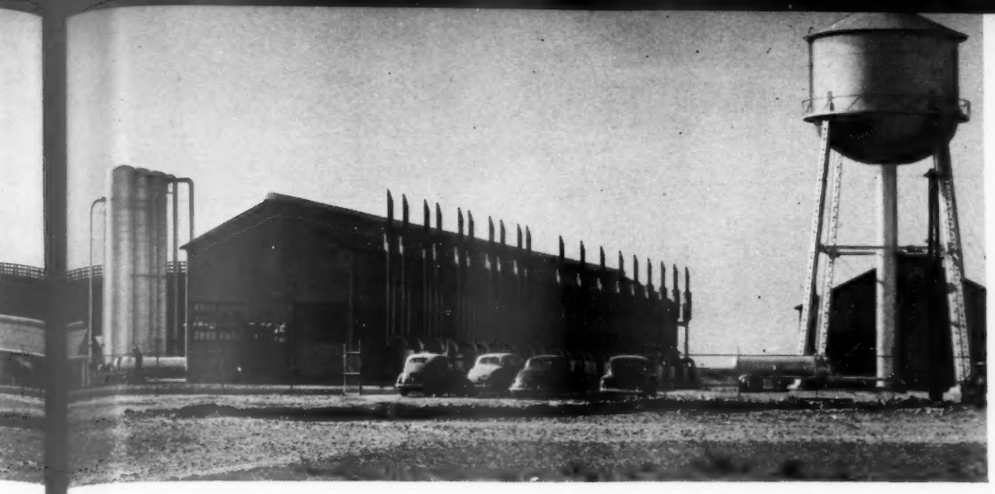
Twelve vertical 600 and 800-hp. Clark and Cooper-Bessemer gas-engine-driven compressors take the gas at approximately 7 lb. gage and boost it to 70-lb. gage in a single stage, three 600-hp. compressors taking gas from the sweet side of the header and the remaining nine units sour gas from the other side. Upon being discharged from the compressors the gas is passed first through after-coolers and cooled to a temperature of about 90° F., then to an accumulator. The sweet and sour gases are flowed through separate systems and after leaving the accumulator the sweet gas goes to one absorber while the sour gas enters the other two absorption towers.

The absorbers were designed for an actual working pressure of 70-lb. gage using 20 trays and a Mist-D-Fier to prevent oil from being carried over the top. A portion of the dry gas from the top of the absorbers is used as fuel in the plant while





Right: Butane tower, stabilizer, still, and absorption towers and heat exchanging equipment. Below: View of the rear side of the twelve 600 and 800-hp. vertical-type compressors



General view of the new El Paso Natural Gas Co.-Phillips Petroleum Co. plant. Compactness of layout permits a 1,020-hp. boiler plant, 1,050-kw. power plant, 10,200-hp. compressor station and facilities for recovering and stabilizing natural gasoline to be placed in a relatively small area

# of Absorption Oil Gasoline Plant

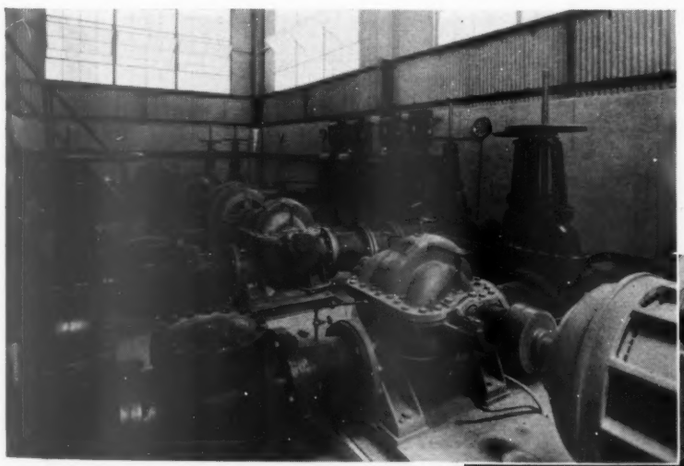
about 10,000,000 cu. ft. of sweet gas is boosted to 550 lb. pressure in two 600-hp. compressors for use by El Paso Natural in its pipe-line system.

Fat oil from the absorbers is stage-vented through two tanks to a pressure of 9 lb., the gases from the vent tanks being passed through reabsorbers. Lean oil enters near the top of the reabsorbers to further scrub the vent gases, with the fat oil flowing from the bottom of the towers to join in with the fat oil from the absorbers. Lean-oil circulation over the main absorbers approximates 896 g.p.m., while 9 g.p.m. is circulated over the No. 1 vent reabsorber and 16 g.p.m. over the No. 2 vent reabsorber.

A fat-oil pump is used to pick up the oil from the last vent, the amount removed being controlled by a liquid-level controller which actuates a valve on the discharge of the centrifugal pump. The oil is picked up at 5 lb. and discharged through heat exchangers and a preheater into the still, operated at 40 lb. The shell-and-tube exchanger is heated by lean oil from the still, with steam supplying the heat to the preheater.

The still was designed with 20 trays, one of which is a chimney tray from which the condensed steam is removed. A tower-top temperature of about 180° F. is maintained by pumping reflux from the gasoline dewatering tank back over the still, while stripping is accomplished by exhaust steam. The stripped oil in the still passes out through the heat exchangers into the suction of the lean-oil pump and is discharged through atmospheric coolers and shell-and-tube propane chillers to the absorbers, completing the oil cycle.

The vapors from the still are condensed in atmospheric condensers and collected in a gasoline dewatering tank. A pressure of 30 lb. is maintained on the dewatering tank so that some light vapors are given off. These pass out the top of the tank through a flow regulator and are run to a 200-hp. compressor, passing through an accumulator where entrained liquids are removed. Recompressed to 162 lb., this stream of vapors is combined with a stream of raw gasoline pumped from the gasoline dewatering tank and together they pass on through condensers where the product is totally condensed and received into a raw-gasoline tank. From this tank the raw product can be either transferred to a raw-gasoline shipping line or charged to a stabilizer for further separation of products.



***Left:** Cooling-water pumping facilities consist of two 75-hp. and one 60-hp. motors driving centrifugal pumps. **Below:** Electric power is furnished by three 350-kw. generators driven by 600-hp. gas engines*

Before entering the stabilization phase, however, mention of the propane refrigeration system will be made. The unit was designed to operate with a 57-lb. suction pressure and being discharged from the 600-hp. recompressor at 149 lb. Equipment required on this unit in addition to the recompressor includes a lube-oil separator, propane condenser, propane surge tank, propane evaporator, and lean-oil chillers. The chillers are connected to the evaporators in such a way that the temperature of the propane used to cool the oil to about 45° F. is maintained at a temperature of 35° F. Propane for the refrigeration unit is made in occasional cuts at the plant, but since a closed system is used only little makeup propane need be added at intervals. The method of operating the propane-refrigeration unit and how the lean-oil stream is constantly kept at low temperatures is clearly shown on the accompanying flow sheet.

Stabilizing Facilities

Raw gasoline to be stabilized is picked up from the surge tank by a steam-driven stabilizer charge pump and passed through shell-and-tube heat exchangers to the stabilizer. This column is designed for a working pressure of 300 lb. and has 31 trays. In making a 14-lb. R.v.p. product a temperature of 305° F. is maintained on the tower bottom and about 160° F. on the top, both of which are recorded. Heat for the tower's operation is supplied by an external horizontal-tube reboiler, operating on exhaust steam at 6-lb. pressure. It will handle 137,000 gal. of raw feed daily, producing a bottom product ranging from 26-lb vapor-pressure gasoline to butane-free gasoline.

The overhead vapors from the stabilizer are condensed into a reflux accumulator tank; the production from this tank in excess of reflux requirements is removed by float and valve into a butane surge tank from which it is charged into the butane column.

(Continued on Page 35)

1818 COOPER-B

Battery of 600 and 800-hp Type G-MV compressor units at Jal . . . maximum power in minimum space, through rugged and compact V-angle design!

Above right—Three of these 8-cylinder Type JTB gas engines drive 350-kw generators to furnish ample and dependable electric power for the entire plant.

Nearly nine-thousand modern, Cooper-Bessemer, gas-engine-horsepower is serving El Paso Natural Gas Company's big gasoline plant at Jal, New Mexico! Angle compressors for pressure maintenance . . . horizontals for re-compressing . . . V-angles for gasoline plant and pipeline transmission . . . vertical gas engines for generating electricity!

El Paso Natural realized the value of these modern angle, V-angle, and

THE COOPER-BESSEMER CORPORATION

Mount Vernon, Ohio — PLANTS — Grove City, Penna.

The stabilizer-temperature control, however, is such that only the amount of reflux required for the column's operation is condensed. This is accomplished by means of a bypass valve, controlled by the liquid level in the reflux tank, which regulates the volume of vapors to be condensed and that discharged to the flare. Thus, if the condenser is making too much reflux, more of the overhead vapors are allowed to bypass, and in this manner the amount of reflux is automatically kept at a level needed to supply refluxing requirements of the column. Remainder of the overhead stabilizer vapors join those vented from the reflux tank and are burned in the flare.

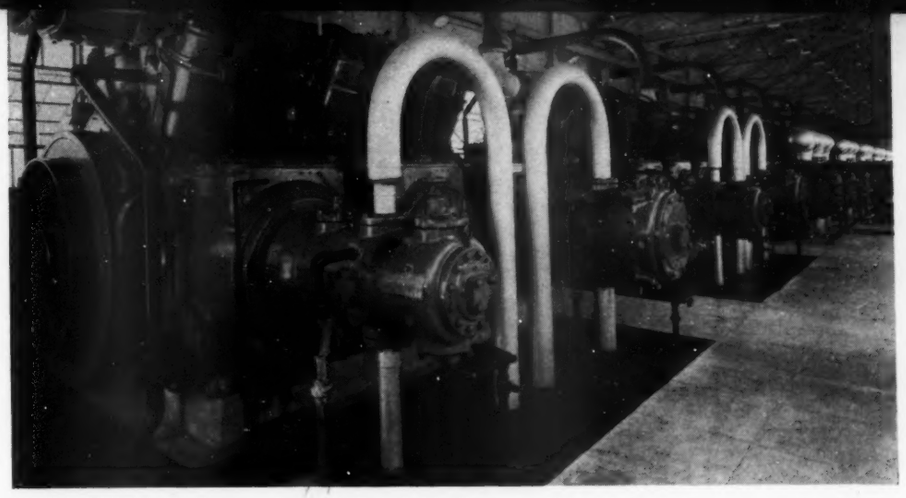
Stabilized gasoline is withdrawn through a liquid-level controller on the reboiler, passed through the stabilizer heat exchanger and a gasoline after-cooler and run to storage. As stated, a finished product ranging from 26-lb. R.v.p. to a debutanized gasoline can be taken from the tower. In producing 14 R.v.p. gasoline a recovery of 0.746 gal. per 1,000 cu. ft. of gas is being obtained. An analysis of a 13.8-lb. gasoline produced is as follows:

	Liquid vol., per cent
n-Butane	10.13
Isopentane	17.14
n-Pentane	19.02
Hexanes	25.16
Heptanes	28.55

Butane from the surge tank is charged by a steam-driven feed pump through an intermediate heat exchanger to the butane column. This tower has 30 trays, is designed to operate at 325 lb., and is capable of handling the output of the stabilizer over its complete range of operations to produce a bottom product of 95 per cent butanes and 5 per cent propane.

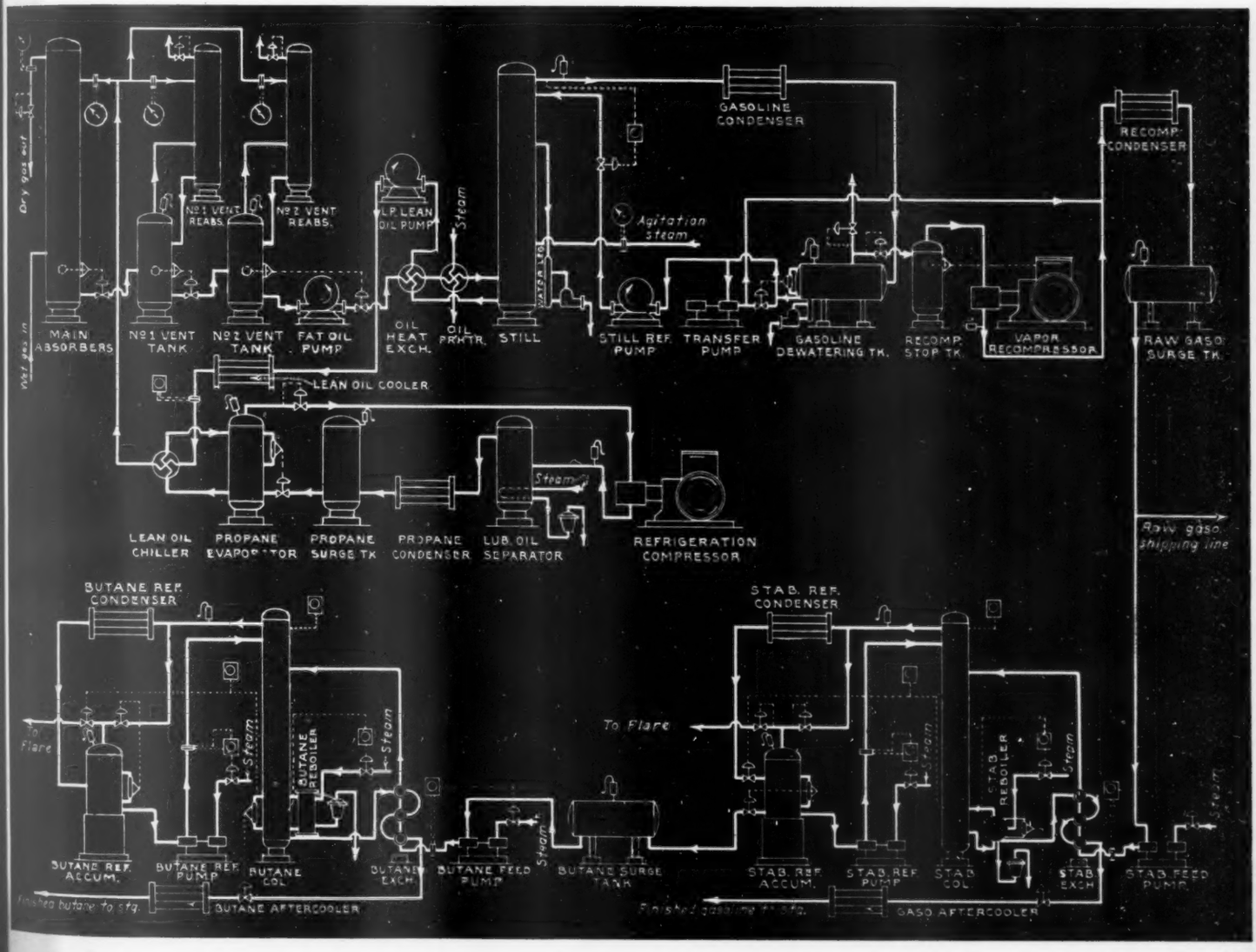
Overhead vapors from the tower are condensed into the butane reflux accumulator, the amount of vapors being condensed for reflux and that discharged to the flare being regulated by the same-type Stearns-Roger control used on the stabilizer. Sufficient overhead products, composed of propane and lighter, are condensed and pumped back over the column to maintain a tower-top temperature of about 110° F. Heat for operating the tower is supplied by steam, with an external vertical-tube reboiler being used. Finished butane is withdrawn from the base of the tower through a liquid-level controller, passed through the butane heat exchanger and an after-

(Continued on Page 38)



Compression side of the 12 compressors, all housed in one building. Incoming wet gas is compressed from 7 to 70 lb. in the natural-gasoline cycle and then a portion of the residue boosted to 550 lb. for pipe-line use.

Simplified flow diagram of the El Paso Natural Gas Co.-Phillips Petroleum Co. natural-gasoline plant at Jal, N. M.



CLARK 800

in new combination Gasoline P

Rear View CLARK 8-Cylinder, 800 H.P. "Angles" in El Paso Natural Gas Co. plant, at Jal, New Mexico.

CLARK 8-cylinder, 800 H.P. Super-2-Cycle Right Angle Compressor.

FIVE of the new 8-cylinder, 800 H.P. size CLARK Super-2-Cycle "Angle" Compressors — totalling 4,000 H.P. — were ordered and are now in service in the new combination gasoline plant and gas booster station of the El Paso Natural Gas Company, at Jal, New Mexico.

Built by the construction department of the El Paso Natural Gas Company, this new plant is one of the largest of its kind in the industry, having been designed to handle a maximum of 85,000,000 cu. ft. of gas daily. It takes gas from the wells at 19.2 lbs. pressure, strips the gasoline from it, and puts it into the trunk pipe line at 562.2 lbs. pressure.

The CLARK "Angle," due to new features and compact design, introduced several important economies. The new 8-cylinder unit represents a still further gain in compactness. 4,000 H.P.

H.P. "ANGLES"

e Plant and Gas Booster Station

Front view of same battery. CLARK "Angles" are offered in 2, 3, 4, 5, 6 and 8-cylinder sizes.

of this unit can be installed in floor space only 24 ft. x 130 ft. Other economies which have accounted for the all-time sales record of the CLARK "Angle" are: Reduced transportation and erection costs, due to shipment assembled; saving of one-third in fuel due to CLARK Fuel injection and 26% excess scavenging air; lowest maintenance due to simplicity of design.

Before selecting your next compressors allow us to fully explain the economies which have sold 200,000 horsepower of CLARK "Angles" in only 4 years.

CLARK BROS. CO., INC. . . . OLEAN, NEW YORK, U.S.A.

Export Offices: 30 Rockefeller Plaza, New York. Domestic Sales Offices and Warehouses: Tulsa, Okla.; Houston, Texas; Chicago, Ill.; Boston, Mass. (131 Clarendon St.) West Coast Offices: Smith-Booth-Usher Co., Los Angeles, Cal. Foreign Offices: 72 Turnmill St., E. C. 1, London; 4 Str. General Poetas, Bucharest, Roumania.

CLARK

cooler and run to storage. An analysis of the finished product follows:

	Liquid vol., per cent
Propane	2.05
Isobutane	18.28
n-Butane	79.47
Isopentane	.02

As is indicated in the above description, control of operations is almost entirely automatic. Also, due to the wide usage of liquid-level controllers with electrically operated alarms, temperature recording and controlling instruments, safety relief valves and other devices, operation of the plant is made as safe as modern plant design will permit, from the standpoint of safety of personnel as well as equipment.

The cooling tower is of the induced-draft type, of Parkhill-Wade design, and is partitioned into 22 bays in the cold section and 17 bays on the hot side. Both the hot and cold sections have their own water circuits, and all streams to be cooled are first passed through the hot side and then through the cold side. In the hot section cooling is accomplished by evaporation, while in the cold section heat is dissipated mainly through sensible heat rise. The overall tower is 240 ft. long, 36 ft. high and 22 ft. wide, with the bays on 6-ft. centers.

Cooling-water pumps for lifting the water over the tower consist of two 2,300-g.p.m. capacity cold-water pumps at a 70-ft. head, operating at 1,800 r.p.m., and driven by a 75-hp. motor; also a 2,250-g.p.m. capacity hot-water pump at 70-ft. head, operating at 1,750 r.p.m. and driven by a 60-hp. motor. One of the cold-water pumps is so connected that it acts as a common spare for either the cold or hot-water system. No steam standby equipment is used, since if the power plant was shut down there would be no means of operating other plant facilities.

Steam-Generating Facilities

Steam-generating facilities consist of three 340-hp. Vogt water-tube boilers, operated at 225-lb. pressure. Two of these boilers are capable of supplying the plant's heating and power requirements of 66,000 lb. per hour so that one boiler is kept down at all times, but ready for use as a spare. All exhaust steam is totally condensed and returned as feed water. The condensate from the preheaters is returned under pressure and pumped direct into boiler feed lines, giving a feed-water temperature of 300° F. Feed-water pumps consist of two four-stage centrifugals, one powered by a 40-hp. electric motor with the standby powered by a steam turbine. The pumps operate at 3,600 r.p.m., each capable of charging 75 gal. of feed-water to the boilers per minute. Fuel for the boilers is taken from the main residue gas from the absorbers.

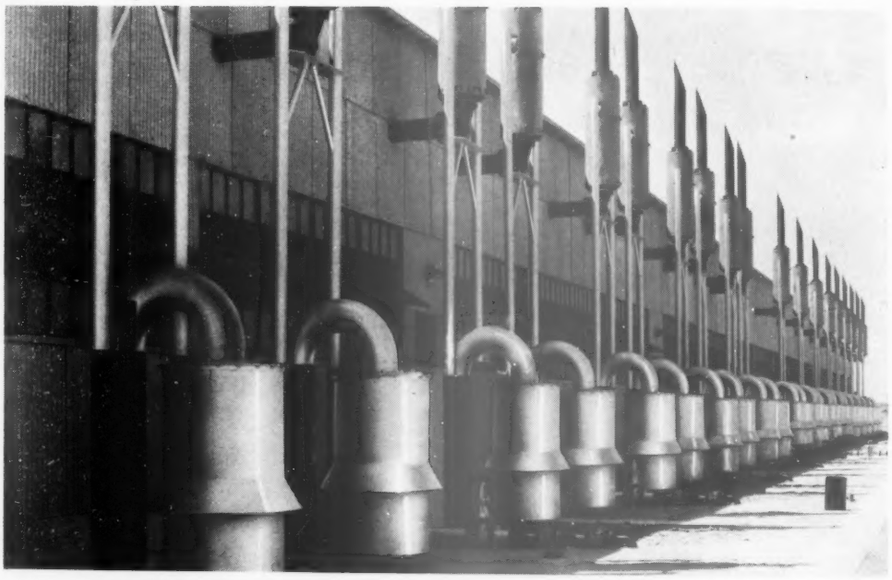
Water for the engines, for gas cooling and for boiler-feed water makeup, is treated in an Acelator-type plant having a capacity of 250 g.p.m. By conserving all exhaust steam possible, the plant's makeup water requirements are kept to about 15,000 gal. per hour.

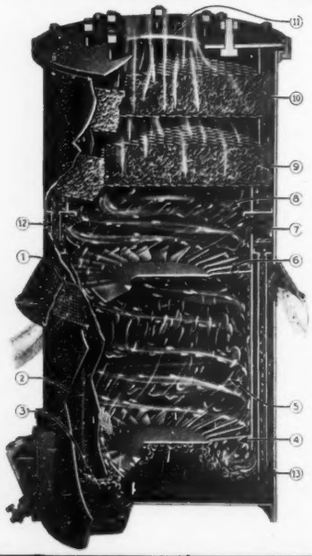
Lighting and electricity for power purposes is furnished by three 350-kw. Westinghouse generators direct driven by three 600-hp. Cooper-Bessemer gas engines, operating at 400 r.p.m. Field exciters are mounted at the outer end of the shaft. Only two of the three units are normally operated at one time, with the third being used as a standby.

Since the plant is located in an area where sand storms are frequent at some periods of the year, all buildings were fabricated as dustproof as possible. Also all compressor units are equipped with large-capacity American air filters placed outside the compressor building.

Construction work on the plant was started on January 24 of this year, and in spite of numerous sand storms and several snow storms was completed on schedule. The compressor station, auxiliary power plant, boiler plant, and water-treating plant, together with all piping, was designed by El Paso Natural engineers. The absorption, stripping, and distillation facilities and other portions of the gasoline and butane-recovery system were designed by Parkhill-Wade of Los Angeles, Calif., and fabricated by Stearns-Roger Manufacturing Co., of Denver, Colo. Construction work was done entirely by forces of the El Paso Natural Gas Co.

23 CYCOIL OIL BATH AIR CLEANERS PROTECT ENGINES AT THE EL PASO GAS COMPANY PLANT





Cycoil Affords Positive Protection Under Most Severe Operating Conditions . . . .

To be efficient, air filters must be engineered to fit the service they are expected to perform, and to this end, AAF offers a complete line of air filters for engine and compressor service.

The new Type W Cycoil Oil Bath Air Cleaner will operate continuously over a wide range of air volumes—ranging from 40% to 100% of its rated capacity. Its unique construction features result in practically 100% removal of large dust particles and a high percentage of smaller dust particles before the air stream reaches the filter cell. At the left is a detailed cross section showing the 13 operating steps which insure Cycoil's continuous self-cleaning action. Write for Bulletin No. 130C.

AMERICAN AIR FILTER CO., INC.
Incorporated
801 Central Ave., Louisville, Ky.

AMERICAN Cycoil AIR FILTERS

BOOKS

AMERICA'S PROGRESS IN CIVILIZATION. By Earl Freeland and James Truslow Adams. Charles Scribner's Sons, New York. 669 pp.

This volume is really not so ponderous as its title might suggest. The authors recite as the central purpose of the work "to make citizens better equipped to face realities." Studied effort has been made to keep the book simple, even to the point of limiting its vocabulary to the first 6,000 words of the Thorndyke list so far as possible. And while written as a text book, the style is such that it will appeal to the average reader long past the text-book stage.

More Efficient Practices Used To Produce Gas Wells on Gulf

By NEIL WILLIAMS

MORE efficient and effective practices and facilities constantly are being developed for the production of those high-pressure gas wells on the Gulf Coast in which the gas is used for purposes other than recycling. Problems incidental to the control of these wells are being overcome to the end that greater fluid recoveries are being obtained with freezing and other hazards of pressure reductions minimized.

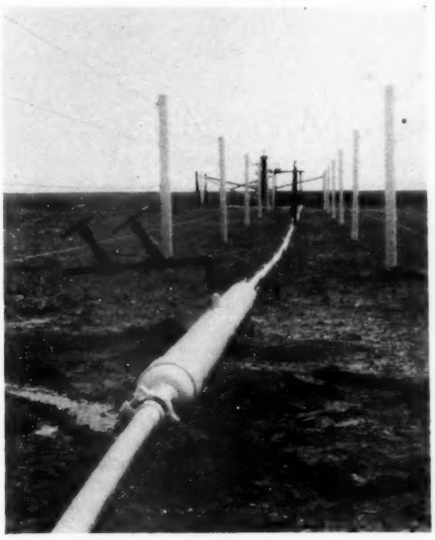
Unlike those gas-distillate wells produced in connection with recycling operations, in which the stripped gas is returned to the reservoir, permitting production of wells at predetermined constant rates of flow, wells from which the residue gas must be disposed of in market channels or used for fuel necessarily are subject to variable rates of flow depending upon the demand of the outlets.

In the production of these wells, control of pressure drops is a major factor in the efficient recovery of fluid content of the gas. This control involves reduction of the pressures without causing freezing in the gas lines or separators, and at the same time without applying so much heat to the gas that separation of the gas and distillate is hindered. When withdrawals from a high-pressure gas well fluctuate or are intermittent, this control becomes more complicated.

In such cases, use of bottom-hole chokes for reduction of pressure below the surface has not proved particularly adaptable due to the necessity for changing sizes of chokes for varying rates of production. Such changes involve time and expense, not to mention inconvenience of trouble that might be caused by interruption of gas supply at point of consumption due to shutting in of the well. In the case of a drilling well depending on the supply of gas for boiler fuel, cutting off the supply might prove particularly costly.

This has occasioned the development and adoption of pressure-reduction systems with heaters for maintaining the temperature of the gas. Such systems are becoming increasingly common, with numerous additional installations made the past year in various fields. In these, many improvements in design and operation have been made over the original installations.

By processing the gas through the heater before the pressure is reduced sufficient heat can be introduced, in addition to the bottom-hole temperature, that the pressure drop can be controlled and a constant temperature of gas insured on the low-pressure side of the regulator. As the heater coils are designed to carry the full well pressure, there is no occasion either for bottom-hole or christmas-tree chokes on the well. Instead, production of a well is controlled by regulators on the discharge side of the heater coils.



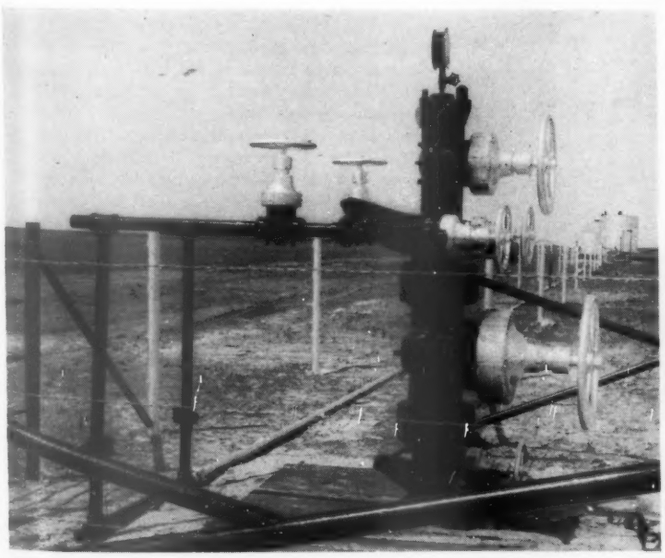
Drip and sand trap in high-pressure line from well to the gas heater and pressure-reduction installation

Regulators are available that are designed to shut in wells having as high as 4,000-lb. pressure with a substantial margin of safety, and at the same time provide volume capacity far above any reasonable desired amount.

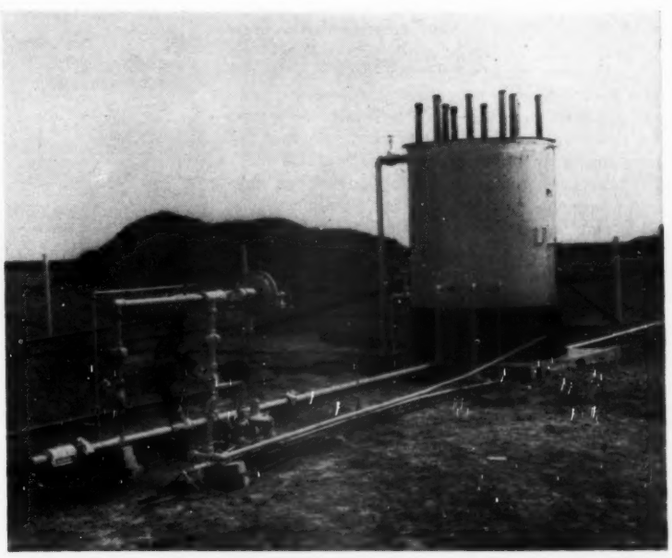
Specific gravity of gas produced on the Gulf Coast usually runs approximately 0.8°, which means that to acquire perfect separation of distillate from the gas, temperature of the gas must be below 60° F. Thus, the temperature of the high-pressure gas must be maintained at a point low enough that the temperature in the reduction of pressure will drop to below 60° F., but at the same time high enough that freezing will be prevented. It has been found that on wells of 2,800 to 3,000-lb. shut-in pressure, the high-pressure gas must be brought to a temperature of about 175° F. This requires the introduction of a comparatively small amount of heat except during periods of abnormally cold weather.

Improvements which have been made in installations of pressure reduction systems have been directed largely to facilitating more responsive, as well as more constant, control over temperatures and pressure drops. These have included, among other things, specially designed heaters with increased heating capacity and adoption of automatic regulators that are thermostatically controlled.

Early heater installations were mainly manually controlled so that operators had to keep close watch over temperatures and then by hand turn on or off the supply of fuel gas to the heater burners according to needs. Adjustments in pressure-reducing valves also had to be made by hand. Under such conditions changes in control were subject



High-pressure gas well hookup in Dickinson field, Galveston County, Texas coast, showing pressure-reduction installation in background



Pressure-regulator and temperature-control hookup showing heater in pressure-reduction system installed by Pure Oil Co.

to such delays that it was possible that the high-pressure gas could get too warm for efficient fluid extraction before the heater could be cut off enough, or vice versa, the gas could cool below the freezing point before the heater could be turned on or the pressure-reduction valves adjusted.

The more recent automatically regulated installations are designed to insure maintenance of constant temperatures and pressure drops regardless of the volumes of gas handled. There are two general types of installations, one with the thermostatic control placed within the heater and operated by the temperature of the water in the heater, and the other with the control placed in the gas line and operated by the temperature of the gas itself. Both types function by regulating the volume of fuel gas to the heater burners as needed, both being responsive to the slightest variation in temperature. The installation in the gas line is made on the low-pressure side of the pressure-reducing regulators, the side on which a constant temperature is demanded. Should the gas get above 60° F. due to the supply of gas going through the heater being stopped, then the heater burners will go out, leaving only pilot lighter remaining.

Heaters are of the hot-water type. Numerous flues extending up through the heater facilitate quick, responsive control over the temperature of the water. In the more recent heater installations, the number of flues has been materially increased to insure the maximum heat distribution and quicker action.

Typical of the more recent pressure reduction systems that have been installed is that of Pure Oil Co. shown in accompanying pictures. This installation is in the Dickinson field, Galveston County, where that company has a number of other such similar hookups.

Modern, efficient and effective temperature and pressure control has made possible the elimination of multiple-stage pressure reduction in many cases. More early installations were designed to reduce the pressure of the gas gradually in successive stages, recycling the gas through the heater after each successive pressure drop before the gas was charged to the separator. As now operated generally, the pressure of the gas is reduced in one step to that desired for charging to the separator.

SAFETY — Many Minor Mishaps On Rotary Rig

A LARGE number of the injuries sustained by workmen on a drilling rig are the result of some minor mishap which could oftentimes be avoided if the drilling crews were not in such a rush to make a connection or complete a trip. In many instances there is no injury to a member of the crew but this is primarily due to the ability of the men to avoid danger once the emergency arises. However, the effect on the contractor or company is much the same as the time required to repair the damage is often considerable and instead of the driller logging up 100 ft. he only logs 80 ft. as an hour was lost unnecessarily. With contract prices varying from $2 to $10 per foot it is evident that these little mishaps may cost from $40 to $200 each.

Most of these minor mishaps are due to oversight of the driller or some member of the crew not performing his duties at the proper time. This is particularly true where the tools run in the hole are too large to pass through the rotary table without removing the drive bushings, or where the rotary table has special locks for holding the drive bushings and kelly bushings in place.

In one case, a driller coming out of the hole with a large steam rig forgot that a stabilizer was being run two stands above the drill collar. Size of the hole being drilled was 12¼ in. and the stabilizer, bit and reamer were too large to pass through the rotary table unless one of the drive bushings was removed. As all of the pipe was nearly out of the hole, the rig was running at its maximum speed and when the stabilizer hit the rotary table the drive bushings did not come out due to their being wedged by the force of the blow.

Before the driller could get the throttle closed, the rotary table was higher than the headboards on the hoist, the rotary chain guard was demolished, the chain broken and the pipe rack a shambles. The pipe racker was scrambling over the headboards unhurt while the backup man, who had been standing with one foot on the rotary table preparatory to placing his slip, was thrown out through the V-door and sprained his ankle.

Several hours were required to repair the damage, the injured employe lost several days and in addition about an hour extra was required to get the new bit to bottom as the hole caved during the delay.

The accompanying photograph shows a similar mishap in which no one was injured and which only required about a half an hour to repair. In this particular case the drive bushings failed to come out of the rotary table when the bottom of the kelly started through. This resulted in the

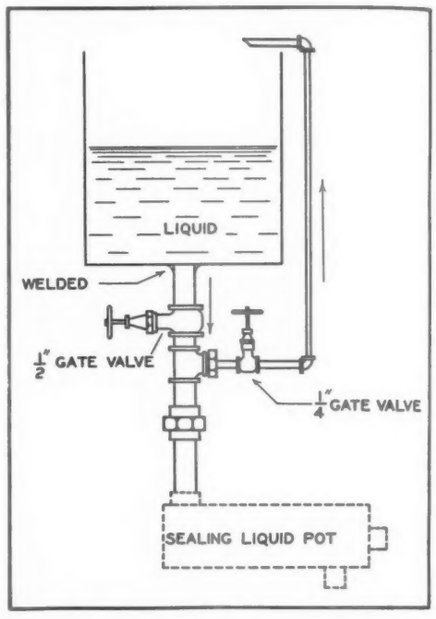
rotary being lifted out of its slot in the floor and considerable effort was required to replace it. It could have been avoided had the driller not been coming off bottom so fast, and if he had not been yelling at a roughneck to open the release valve on the mud line. His issuing this order prevented him from paying undivided attention to the hoisting operation.

Piping Arrangement for Sealing Liquid Pots

SEALING liquid pots are used to maintain a constant static liquid head on the flow meter or manometer to insure accurate measurement and to prevent freezing. In addition to steam measurement, certain vapors and gases also require sealing liquid pots.

The drawing shows the piping arrangement with respect to the liquid reservoir and sealing liquid pot. From the fill collar on the pot to the 3-gal. capacity liquid reservoir is ½-in. standard piping with a ¼-in. standard piping takeoff to the top of the reservoir. The maximum working pressure is limited to that of standard pipe.

To use this "kink," assemble as shown on the



low-pressure pot (or high-pressure) with both flange tap valves closed and both ½-in. fill plugs removed from sealing liquid pots. Close both valves on the kink, replace high-pressure fill plug and slowly open the high-pressure flange tap valve with the meter manifold bypass open, allowing pressure to build up slowly. This will pressure up the meter and piping to line pressure. The liquid is removed by regulating the amount of flow through the ¼-in. line by the ¼-in. gate valve in the liquid reservoir. When all liquid has been forced from the piping into the reservoir, the gas, vapor, or steam will pass over the top of the reservoir and not blow out the liquid. The high-pressure flange tap valve is closed and the pressure is bled off through the ¼-in. line. The freezing point of the solution in the reservoir can now be checked with a hydrometer. The connecting lines can then be blown down and the meter worked on without worry of the sealing liquid being lost.

To return solution, remove high-pressure fill plug and open ½-in. gate valve. The sealing liquid will circulate back into the high-pressure pot, leaving no air pockets. The kink can then be removed.

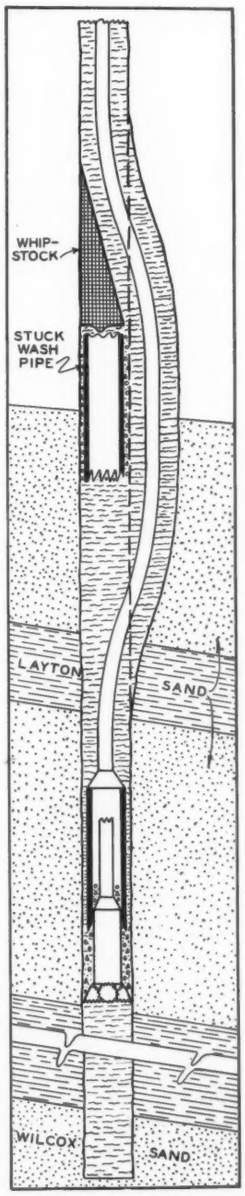
Tests have proved that additional sealing liquid was not needed. The amount of time saved is the greatest advantage over the old method of using cans to catch and refill the sealing liquid.

The above method was presented as an "Operating Kink" by Richard W. Weeks, meterman for Phillips Petroleum Co., at Phillips, Tex., at this year's meeting of the Natural Gasoline Association of America held in Tulsa.

Well Saved by Sidetracking Upper Fish to Catch Lower

By T. P. SANDERS

A FISHING job of a type never before attempted has been completed successfully in the Billings field of Oklahoma. Trouble in drilling is usually considered a discredit to the operators, although it may be unavoidable. However, since the Billings recovery job was attempted against staggering odds in order to prevent underground waste of oil, and since it was consummated successfully through ingenuity, the outcome is considered creditable. The well had cored the top strata of the Wilcox sand below 4,300 ft. After reaming out the core hole the drill pipe was being withdrawn when the bit became stuck in the Layton sand at 3,482 ft. The Layton sand in this area is very porous, and under ordinary conditions drilling fluid is lost to this formation. It is believed that the fishing job was caused because water from the drilling mud was forced into this sand during reaming operations, thereby building up a filter cake on the walls of the hole. In withdrawing the drill pipe the bit was stopped by the reduced hole diameter in the Layton sand. Pumping was started immediately to wash the bit free, but little pressure could be built up because the drilling mud was driven back into the porous sand.



Schematic diagram showing how 72 ft. of wash pipe was sidetracked to recover a lower "fish"

After all usual methods were tried in an effort to free the drill pipe, an inside cutter was used to cut the pipe above the float, leaving the bit, drill collar, one joint of pipe, and the float valve in the hole. Following customary practice, a washover string was then run, using 88 ft. of 7⅝-in. wash pipe on the bottom of the string of drill pipe. This wash pipe was run over the "fish" and rotated to clean out the mud cake which surrounded the drill collar and bit. During the course of this operation, while the wash pipe was being raised, it became stuck with its shoe 43 ft. above the top of the fish. Cause for sticking was again believed to be a filter cake on the wall of the hole in the Layton sand.

Since the wash pipe was nearly as large in outside diameter as the original diameter of the hole, there was no chance for washing over this second fish with a larger washover string. Attempts to establish circulation around the stuck wash pipe resulted only in additional loss of fluid to the Layton sand, and efforts to move the pipe up or down proved unsuccessful. Following the only possible course, the drill pipe and 16 ft. of wash pipe were cut off, leaving 72 ft. of wash pipe lodged in the hole. After successfully removing 16 ft. of wash pipe by cutting inside, it was found impossible to again enter the inside of the stuck 7⅝-in. pipe. Every conceivable method was attempted, including crooked joints, tapered and flat-bottomed mills, spears, taps and die nipples.

With two fish in the hole, the upper one of which defied removal, the hole below the point at which the wash pipe was stuck would have been abandoned if it had not been a possible source of detriment to the oil field. Since the Wilcox sand was open and nearly 1,000 ft. of open hole existed between the Wilcox and the two fish, flooding of the Wilcox was feared, and there was also the possibility that Wilcox gas and oil would be dissipated into an upper thief sand.

Steps in Recovering Fish

In the interest of preventing waste an unusual fishing job was attempted, necessitating for its ultimate success considerable patience and considerable good fortune. The only possible way to salvage the hole appeared to be to drill around the upper fish to catch the lower fish. The first step was to drill partially by the wash pipe then to cement it in to prevent it from moving into the new hole which was to be drilled around it. Enough cement was used to cover the wash pipe, and it was desired that the cement should set long enough to hold the pipe securely but not long enough so that its hardness would tend to deflect the bit away from the old hole during the drilling of the new hole. It was decided that about 12 hours setting time would be most likely to accomplish this condition.

In drilling around the wash pipe, a 30-ft. drill collar was used in order to keep the new hole drilling straight down beside the pipe. When the bottom of the wash pipe was reached, much care had to be exercised to prevent the bit from hanging up on the shoe. After this was passed, however, the bit entered the old hole as had been planned, and the hole was reamed at this point to minimize the possibility of hanging up the bit on the bottom of the washover shoe.

With the new passage open to the lower fish, another washover string was run, and after cleaning out around the drill pipe and drill collar, the fish was removed with an overshot. Before taking any further chances, the hole was then conditioned to bottom and casing run and cemented on the Wilcox. No trouble was encountered in running the casing past the abandoned wash pipe. The well was completed as an average producer.

Questions and Answers

Can you give us a list of recent articles on oil-well shooting? Also the more common causes for premature explosions of nitroglycerin when shooting a well?—B. C. B., Bradford, Pa.

The best article along this line is the one delivered by Paul F. Lewis, Du Pont de Nemours & Co., before the Illinois basin chapter of the A.P.I., which was reported in The Oil and Gas Journal of February 29, 1940, Page 39. Other papers carried in The Oil and Gas Journal include "Illinois Uses Several Explosives and Tamping Methods," by Harry F. Simons, April 11, 1940, Page 81; "Theories and Practices in Modern Oil-Well Shooting" by R. B. Bossler, July 20, 1939, and "Electrical Logs Locate Shots in Illinois Sand Wells" by Harry F. Simons, November 30, 1939.

Damage may be caused to wells when shooting by things other than a premature explosion. These would include: Misplacement of the shot due to incorrect measurements on the part of the operator; failure to tamp properly or failure to get the tamp in place. There are also errors in judgment in shooting too close to the casing.

Shooting companies operate under a clause which places responsibility on the operator, particularly as to damages to the well. On all cards and other advertising material issued by the shooting companies, they include the phrase, "All work performed at well owner's risk."

There are a number of things which can cause a premature explosion and generally each case is different. Most common causes are as follows:

1. An obstruction in the well such as a pipe sliver or "bridge," which could cause an explosion when the shells containing the glycerin hit it.
2. Trying to run small shells in a large hole, which could cause them to telescope or bunch up.
3. Hole caving in on top of the shells.
4. Acid in the hole might start decomposition.
5. Excessive heat in the well, which might start decomposition.
6. Careless handling of explosive; setting down too hard on bottom of the "bridge," or breaking of the shooting line.
7. Failure of the time bomb.

The latter has about one chance in one million of happening as when these bombs are properly set they cannot discharge prematurely.

As for cause No. 6, no shooter is going to get careless with nitroglycerin. That is one occupation in which you are allowed only one mistake. They are also very careful in seeing that their equipment is in proper shape for handling a job.

Causes 4 and 5 are taken into consideration when shooting a well and in case the well has been recently acidized it can be produced long enough to remove the acid and if the temperature is excessive the glycerin can be inhibited to prevent its decomposition.

Steel-Pit Partitions Used on Illinois Rig

By HARRY F. SIMONS

DRILLING-MUD pits are being modernized on shallow wells as well as in the deeper fields where some unusual mud-handling systems have been developed. In the latter areas the incentive is the desire for more positive control of the mud, which is made possible through the use of properly designed and efficient systems having a comparatively small volume of mud, while in the shallow areas the development is primarily one of reducing costs.

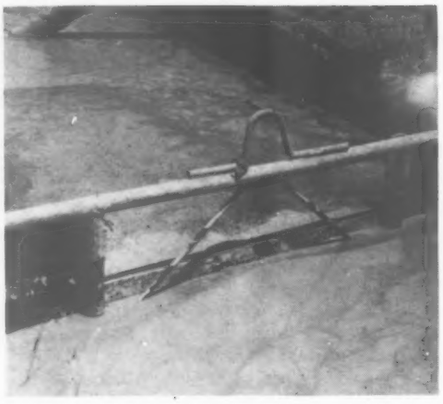
A modern deep-well mud system was described in The Oil and Gas Journal, July 13, 1939, Page 42. The rig described included an elevated mud trough and steel tanks instead of the usual board trough lying in a ditch. This method eliminated any seepage of the mud through the walls of the pit into the surrounding ground and also provided increased efficiency because it allowed the pump suctions to be flooded at all times. Use of this system is possible only on wells where a substructure derrick is being used.

In Illinois there are practically no substructure derricks used and there is no trouble caused by seepage of the drilling fluid into the ground surrounding the pits. The wells are quite shallow (1,500 to 4,500 ft.) and there is little loss of fluid into the formation, the main requirement being proper conditioning of the mud to prevent water loss into the formation with the consequent building up of a filter cake which might cause sticking of the drill pipe. Important savings are effected through the use of small pits as the costs for this item are based on the volume of dirt moved in digging the pits. Also, as soon as the well is completed, the pits must be filled with dirt, and the smaller pits are much cheaper to fill than larger ones.

View of pits on Illinois drilling well showing steel-pit partitions and mud jets

The fact that in many Illinois fields a rotary rig will drill at least one well a week has caused a premium to be placed on any method which will save time in rigging up and which will reduce the costs per well.

Carter Oil Co.'s engineers developed a steel-pit partition which can be quickly and easily installed at the start of the well and easily removed after the well has been completed. Many drilling contractors in the area have adopted the same method and are now using steel partitions in their pits. While there are some variations due to the design of different rigs, most pits in Illinois are of the single L type. Centers of the pit are generally 45 ft. from the center of the derrick. This allows ample working space around the derrick.



Closeup of steel-pit partitions showing gate of window for controlling flow of mud

Pits used in Illinois are dug with a track-type tractor having a blade on the front. The pits are generally dug the width of one blade, or about 9 ft. Installation of two board partitions requires about 200 board feet of lumber for the simplest kind and as much as 500 board feet if double or wing-type partitions are used. In addition, the time consumed in cutting boards and building the partitions will vary from 16 to 30 man hours, depending on type partition built and the efficiency of the drilling crew. When the well is completed the boards are left in the pit and consequently new boards must be purchased for the next location.

With the steel partitions, it is only necessary to dig a recess into the pit wall deep enough to allow the partition to be slid into place. The partitions are 11 ft. in width and this allows about 1½ ft. to be countersunk into the wall of the pit. Dirt is then tamped around the ends of the partition to prevent mud from channeling through the pit walls.

The steel partitions are built from used 2-in. pipe, sheet steel, and angle irons. The pipe is used for an 11 by 5-ft. rectangular frame and the sheet steel welded to it. A gate, or window, is built in the partition by putting pieces of 2-in. pipe across the frame 2 ft. from the center, with 2-in. angle irons welded to the sheet steel on the upstream side of the partition. Boards cut to fit in this window can be removed or replaced whenever necessary and the level of the fluid in the pit controlled in this manner. The window is braced by ⅝-in. sucker rods.

Substructures Used to Protect Illinois Pumping Equipment From Floods

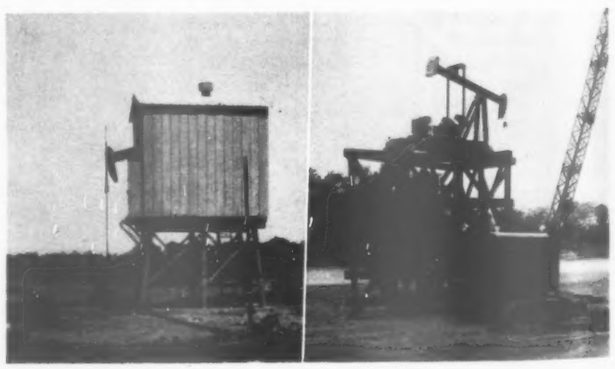
OIL operators with wells on the overflow land of the Wabash River near Grayville, Ill., are faced with the problem of protecting their pumps and machinery from damage by flood waters which annually cover the surrounding land several feet deep.

Pumps on producing wells on solid ground near the river are set on steel substructures embedded in concrete foundations several feet deep. However, with the advent of drilling on sand bars adjoining the river, a new problem arose on how to build substructures which would not be undermined by the swift currents. In addition, the oil operators must obtain permits from the U. S. War Department engineers before starting construction of the foundations. Permission must also be obtained from the engineers before wells can be drilled on the bars.

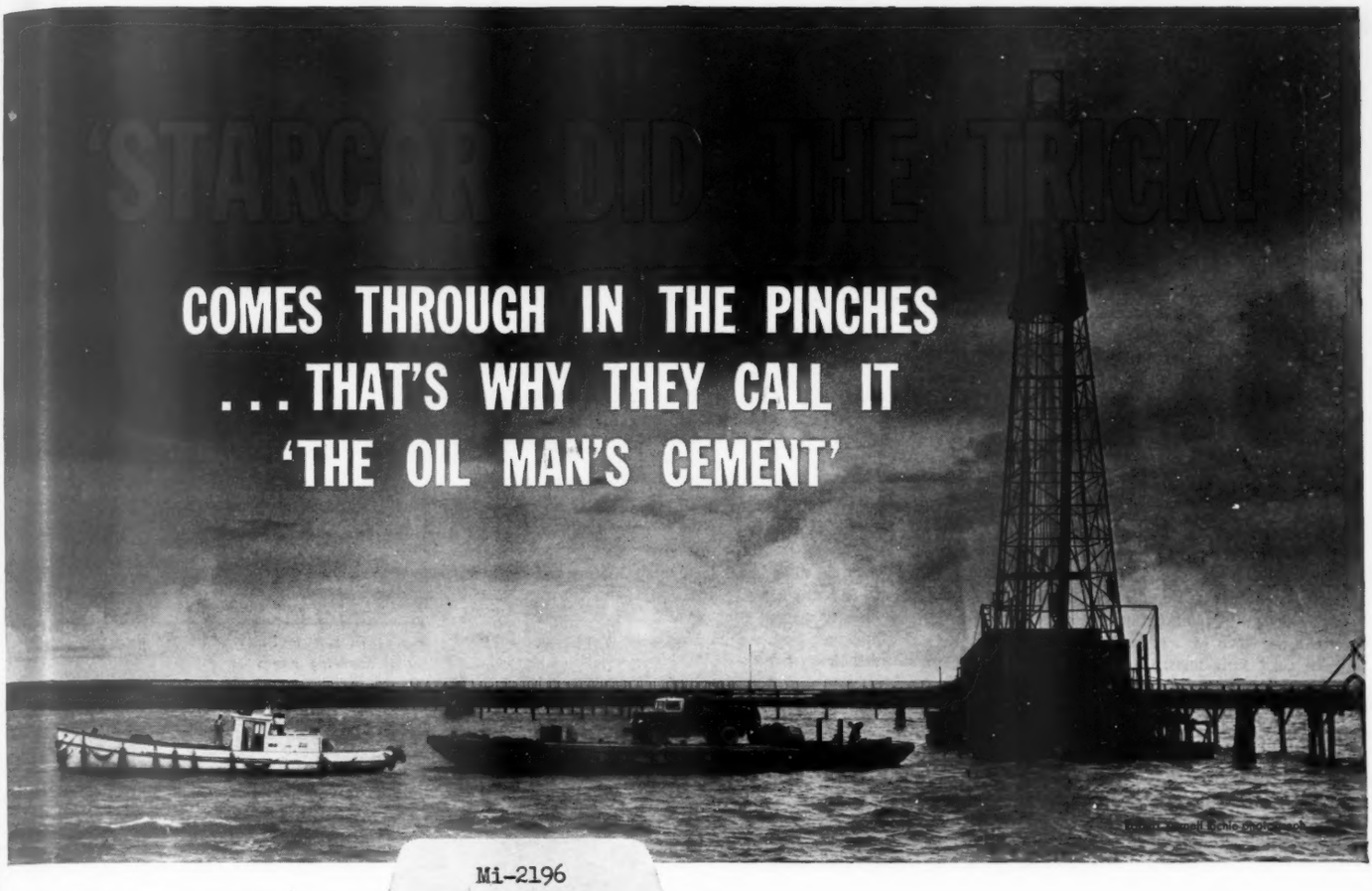
The Longhorn Oil Co. has experimented with wooden structures buried several feet in the sand of the sand bars and extending above the high-water level. Two of these experimental structures have been erected on the Heil lease in southern Wabash County. Only a few feet away from the river, those structures sink into the sand and gravel for 18 ft. and extend 24 ft. above the surface of the bar. The wooden piling is tied together with steel and wood braces.

Farther back on the overflow land of the lease, Longhorn has erected pumps on steel structures, covered with small steel houses to protect the pumping units from the weather. There are now 12 producing wells on the Heil lease.

In Wabash and White counties, Illinois, and Gibson and Posey counties, Indiana, many of the more than 500 producing wells are located on overflow land of the Wabash River and tributary streams.



Steel and wooden substructures used on producers in overflow land of Wabash River near Grayville, Ill.



Mi-2196

FIELD: Lake Pelto, Louisiana
TYPE OF JOB: Casing; 7" O.D., 9-5/8" hole
DEPTH OF WELL: 5,500 feet
MAX. TEMP.: 150° F.
SLURRY WEIGHT: 16 lbs. per gal.
CEMENT USED: 'Starcor' - 400 sacks
MIXING TIME: 18 minutes
PUMPING-DOWN TIME: 27 minutes
MAX. PUMP. PRESSURE: 1800 lbs.
REMARKS: Mud weight, 10 lbs. per gallon; circulation broke at 900 lbs; well was circulated 1 hr. 20 min. prior to cementing... Another successful 'Starcor' job under unusual and difficult conditions.

SCATTERED over Terrebonne Bay, in Iberia Parish, La., are a number of domes, all producing oil. The wells are not very deep, but formations are so soft that holes are almost always crooked. This combination produced plenty of grief—until they switched to 'Starcor'. 'Starcor' did the trick, like the Oil Man's cement that it is. See typical job-log, at left.

'Starcor' is made to measure for oil-field service, through continuing research, at the drilling rig and in our oil-well cement research laboratory. Use 'Starcor'* for deep wells—greater length and ease of pumpability at high temperatures, extra sulphate resistance. Use 'Incor'* for wells of moderate depth—earlier drill-out, wells on production quicker. Insist on 'Starcor' or 'Incor'—it'll pay you well.

*Reg. U. S. Pat. Off.

LONE STAR
CEMENT CORPORATION

DALLAS: Santa Fe Building . . . . HOUSTON: Shell Building

USE 'STARCOR' for deep wells, greater length and ease of pumpability at high temperatures, and extra sulphate resistance.

USE 'INCOR' for wells of moderate depth—earlier drill-out, wells on production quicker.

Electrical Device Allows Remote Control of Pump

By W. T. ZIEGENHAIN

THE quantity of steam supplied the hot-oil charging pump on a cracking unit which is 100 ft. away from the control house, is manually regulated from the control house at the Fort Worth, Tex., plant of the Sinclair Refining Co. by means of an ingenuous electrical device. Utilizing the difference in the flow of electricity through an ordinary coil when an iron core is inserted and then removed from the coil, a light placed in the coil circuit is dimmed in the control house with each revolution of the pump. In actual practice the installation utilizes the 110-volt ordinary current and the hookup of the apparatus is shown here in a simplified diagram.

In first considering the use of an electric light for counting the revolutions of a pump, or any other reciprocating machine, the easiest installation would be a simple switching device which, when attached to the revolution center, would turn an electric light on and off with each revolution. This installation is not satisfactory when used as a revolution-per-minute counter in that a lamp bulb will last only a very short time when turned on and off any appreciable number of times a minute. With this installation the lamp is never completely turned off; i.e., it is always hot, consequently does not burn out as a light would with a central switching box.

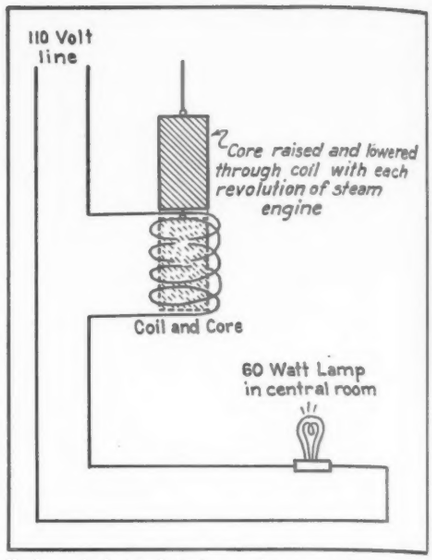
The essential parts include the coil, an ordinary light bulb, and a means for supplying reciprocating motion to the core with each stroke of the pump. This is needed to raise and lower the iron core throughout the thickness of the coil.

On this engine the motion is supplied by a revolution counter, a small arm on the counter raising and lowering the iron core through the coil. The two are joined by means of a flexible wire on which the core is suspended. The coil is made up of approximately 1,200 rounds of No. 30 magnet wire, allowing a hole of approximately 1-in. diameter through the coil to provide space through which the movable core passes.

The core is of standard construction being made up of thin, soft-iron plates, so that the assembled core is about ¾ in. square on cross-section and is about 4 in. long. A square hole through the top of the protective metal box around the coil, serves as a guide for the core as it moves up and down.

In operation, the core is raised and lowered through the coil with each revolution of the engine. This changes the quantity of electricity which flows through the coil and to a degree sufficient to dim the 60-watt lamp placed in the circuit. This lamp is located in the control room of the cracking plant, and there the operator is able to count the revolutions or speed of the charging pump as the light is alternately dimmed and brightened.

Assuming he has learned by experience that the optimum speed for charging the unit is 4 r.p.m., then, if the light is dimmed less than this, he knows the pump is not charging as fast as desired. In this case he opens the steam valve to the pump until the light is dimmed exactly four times a minute. If the light is dimmed faster than four times a minute, he cuts down the supply of steam. The count is made on a stopwatch. The cost of the installation is of course very low, and while it is not as positive as a fully automatic control, it has been found to cover the needs of this installation in a dependable manner.

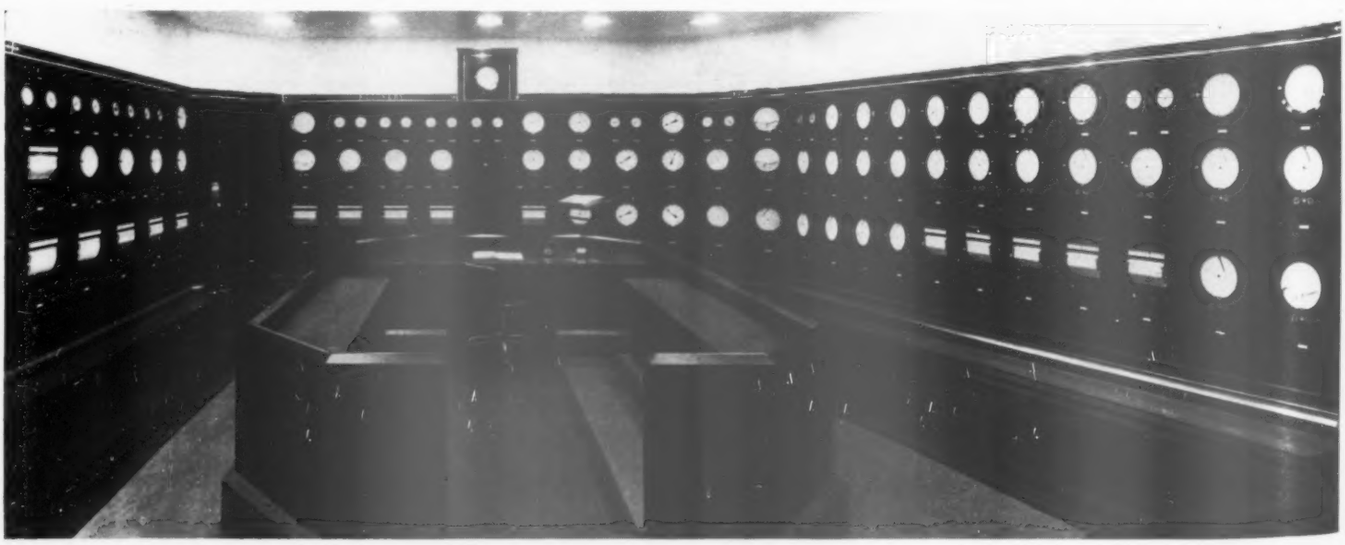

110 Volt line
Core raised and lowered through coil with each revolution of steam engine
Coil and Core
60 Watt Lamp in central room

Hookup of electrical device used to remotely control a hot-oil charging pump

Look-Boxes Losing as Means Of Control in Refineries

AUTOMATIC controls and recorders have been so generally accepted as media for shaping oil-refinery operations that experienced stillmen now find themselves in an entirely different atmosphere while at work. Instead of the hydrometer and the gravity jar, the operator is now confronted with batteries of recording temperature and pressure readings, flow-meter readings, and automatic timing devices. His problem is to keep the operation stable at predetermined or optimum conditions. As long as he is able to do that his job is one of just watching. A typical installation of large-scale, automatic control is included here. The picture was taken at the Sarnia, Ont., refinery of Imperial Oil, Ltd., of Canada. A summary of that company's views regarding the application of automatic controls was contained in the Imperial Oil Review, the house organ of the company. In part it said:

"Automatic control of process units has been



Control room serving the new ketone solvent-dewaxing unit at the Sarnia, Ont., Canada, refinery of Imperial Oil, Ltd.

Sell to the PIPE LINE INDUSTRY

in its BIGGEST year since 1929

YES—1940 will be the biggest pipe-line year in a decade. 1939 was a 10-year record breaker with 5,000 miles of pipe-line construction—but 1940 will achieve a still higher total, the expansion including all three divisions of the industry—crude oil, gasoline and natural-gas lines.

The expansion in crude lines is a result of the record demand for petroleum products, which has resulted in crude production averaging 300,000 bbl. more per day this year than for the same period of 1939. A number of trunk lines have been enlarged, and new lines have been built to provide outlets for new fields. The steady expansion in gasoline-line construction includes interstate systems to move gasoline from refineries and terminals to distributing points and a number of new lines from fifty to several hundred miles long which are in effect elongated refinery loading racks. The outstanding expansion in natural-gas lines has included enlargement of several major systems and construction of connecting lines to new consuming points. Several important major trunk-line projects will probably also be started this fall.

Journal's "Pipe-Line Issue" HIGHLIGHT of Pipe-Line Year

The Oil and Gas Journal's "Pipe-Line Issue" has long been the *leading publishing event* of the pipe-line year, due to the fact that the Journal is the recognized editorial authority in the pipe-line field. This fact is unmistakably evidenced by a comparison of oil journal pipe-line circulations. Here are the figures:

The Oil and Gas Journal	2700
Next journal	1069
Third journal	333

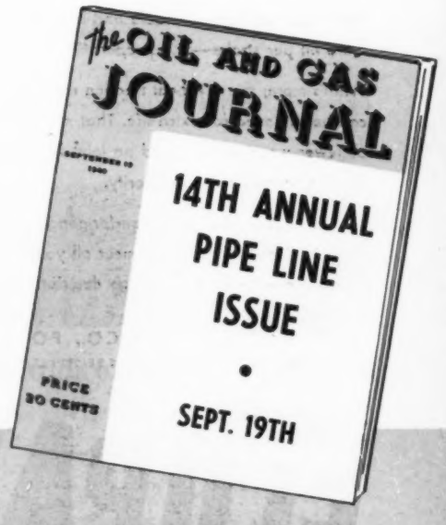
This big issue, this year as in the past, will cover the subject of pipe-line progress from every angle. A primary feature will be the only complete survey published of all companies operating crude oil, gasoline, and natural-gas pipe lines, listing executive and operating personnel and total miles of pipe line operated. Feature articles by widely known executives, department heads and engineers, will describe the latest developments in the laying, maintenance and operation of pipe-line systems. Other articles will summarize activity in the industry during the past year and discuss important trends. A special section under the title, "Practical Suggestions," prepared by a staff writer during several months in the field, will be devoted to photographs and descriptions of mechanical operating "kinks" that are proving practical and valuable.

NEW 4-Color Natural-Gas PIPE-LINE MAP

One of the issue's most valuable features will be a new up-to-the-minute natural-gas pipe-line map of all lines in the United States. This will be a 33" by 48" wall map in 4 colors—a companion map to the crude oil and gasoline pipe-line map published with the 1939 issue.

Closing Date, Sept. 9th

To manufacturers serving the Pipe-Line Industry, this issue, making its appearance in this very active buying season, offers a unique advertising opportunity. The issue will be carefully studied by pipe-line executives and will be used for constant reference during the coming 12 months. Final closing date for advertising copy is Sept. 9th, ten days before the issue's appearance the 19th. Reserve space now and send in your copy well ahead of the final closing date.



THE OIL AND GAS JOURNAL

E. Klappenbach, Vice President, 211 S. Cheyenne Ave., Tulsa, Okla.

NEW YORK	CHICAGO	HOUSTON	TULSA	CLEVELAND	LOS ANGELES	ENGLAND
C. L. Cain, 415 Lexington Ave.	C. R. Farmer 300 W. Adams St.	Wayne Rives, 617 Caroline St.	K. J. Langley, 211 S. Cheyenne Ave.	Howard Markt, Leader Bldg.	J. H. Tinkham, 1406 S. Grand Ave.	A. J. Chambers, Middlesex, 40 Parkhouse Gardens

Annual PIPE LINE NUMBER

of the OIL AND GAS JOURNAL Sept. 19, 1940

established on the basis of two fundamental concepts of manufacturing: First, that smoothness and stability of operation are essential for high quality and maximum yield of products; secondly, the complexities of modern oil-refining equipment entail so many variables that manual control is impracticable because of the many individualities that would be involved. In addition, the records of all process factors are immediately available to interested operators.

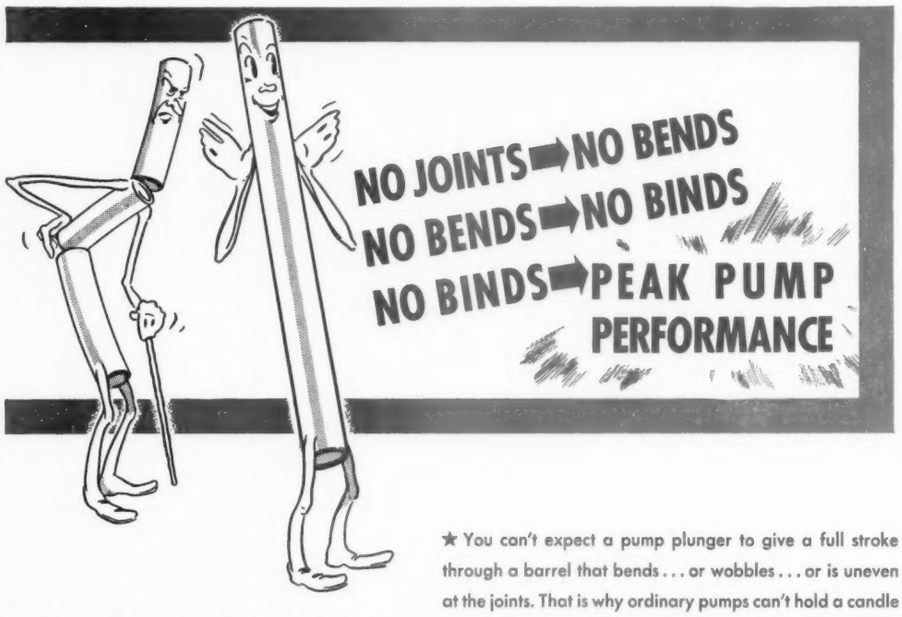
Process Control Equipment

"Two recent installations in the Sarnia refinery indicate the extent to which this policy is being followed. In the construction of the new grease plant, the latest type of control equipment was installed. Precision control of the quantities of solid components used in producing soaps is secured by weighing the materials on a special-type weigh lorry located on the kettle-charging floor. All other steps in the operation of the grease kettles are controlled from a central panel. From this panel and without leaving the operating floor, the attendant can charge to any kettle any of the various liquid components. All materials delivered to the kettles are metered and the quantity of the individual components is automatically regulated by means of a shutoff device on the individual meters, which cuts off the flow when the correct amount has been charged. The temperature of the kettle is indicated and recorded on the panel during the processing cycle, permitting temperature adjustments as required for the particular type of grease being produced.

"The control installations in the new ketone solvent dewaxing plant are of a much more complex nature. In addition to the refrigeration unit required for the chilling operation, there are four related processes involved. First, the mixing of the waxy oil with the correct solvent volume and the chilling of the mixture to the required temperature for wax separation; secondly, the filtering of the wax from the chilled solution; third and fourth, interdependent steps are simultaneous recovery of the solvent from the oil and wax phases discharged from the filter. Since all these operations must be coordinated and synchronized, the complete control is centralized and is automatic to the greatest degree possible.

"One of the most important phases of the process is the filtering of the wax from the solvent oil solution, and it is imperative that the wax crystals be of uniform type and proper size for satisfactory filter operation. This requires that the ratio of solvent to oil be constant at all times and that the chilling during the initial period of the formation of the wax crystals be conducted at a specified and uniform rate. Suitable flow control equipment of the waxy oil and solvent automatically maintains the desired characteristics of the solution, and the chilling is controlled to the desired uniform rate by means of flow controllers on the solution feed and the chilling medium. Precision operation of the two distillation units which recover the solvent from the oil and wax is maintained by means of flow controllers on the charge and furnace feed circuits, and by automatic control of temperature, pressure, and liquid levels at the essential points in the fractionating systems. This control has resulted in smooth performance of the plant at high charge rates with a minimum inventory of solvent."

●



★ You can't expect a pump plunger to give a full stroke through a barrel that bends . . . or wobbles . . . or is uneven at the joints. That is why ordinary pumps can't hold a candle to the FLUPACO "IMPROVED INSERT" when it comes to *real* pump performance—because the "IMPROVED INSERT" pump barrel *hasn't any joints!*

Instead of the usual short liner sections assembled in a jacket, the barrel of this pump is *one solid piece* end to end . . . *made* in one piece . . . *hardened* in one piece . . . *honed* in one piece . . . *installed* in one piece.

There are no joints to wobble and bind the plunger in the middle of the stroke. You get longer pump travel and more oil per stroke—*at less operating cost.*

What's more, the new heat treating method used on the barrel gives it a super-hard inside wearing surface that can be re-honed for extra life. That means a big slice from pump maintenance costs. Add other features, such as fewer wearing parts and no joint leakage (because there are no joints) and you have a few of the reasons for "Improved Insert" superiority.

Yes, sir . . . for *peak pump performance* on ALL your wells, you'll do better with "Improved Inserts." They're made in sizes and metals to meet all your installation requirements. Ask your Fluid Packed Pump representative *today*—or write for new 8-page descriptive bulletin!

FLUID PACKED PUMP CO., POST OFFICE BOX 64, LOS NIETOS, CALIFORNIA
MID-CONTINENT: FLUID PACKED PUMP CO., 2 S.E. 29TH ST., OKLAHOMA CITY, OKLA. • GULF COAST HEADQUARTERS: 2301 CONGRESS AVE., HOUSTON, TEX.

FLUPACO 'IMPROVED INSERT' PUMP

BOOK REVIEW

LESSONS IN ARC WELDING. Published by the Lincoln Electric Co., Cleveland, Ohio. Price 50 cents.

This book will be found helpful not only by beginners learning to arc-weld but also by experienced welders desiring the comprehensive practical information contained in the volume, also by supervisors, foremen and instructors. "Lessons in Arc Welding" is a series of 51 lessons, based upon experiences of Arthur Madson, instructor of the Lincoln Arc Welding School, presenting in concise manner fundamental facts of welding, knowledge of which will enable the welder to utilize the welding process successfully and economically.

Beginning with an introduction giving preliminary instructions to the welder, the 51 lessons are covered in four principal sections: Welding With Unshielded Arc Electrodes; Welding With Shielded Arc Electrodes; Electrodes for Particular Joints and Metals; Hardfacing.

Nineteen lessons comprise the instruction in use of unshielded-arc electrodes. These include the arc-welding machine; striking the arcs and running horizonal bead; running straight bead not less than 12 in. long; weaving; effect of arc length, amperes and speed on bead; effect of polarity on bead; different electrode sizes and their uses.

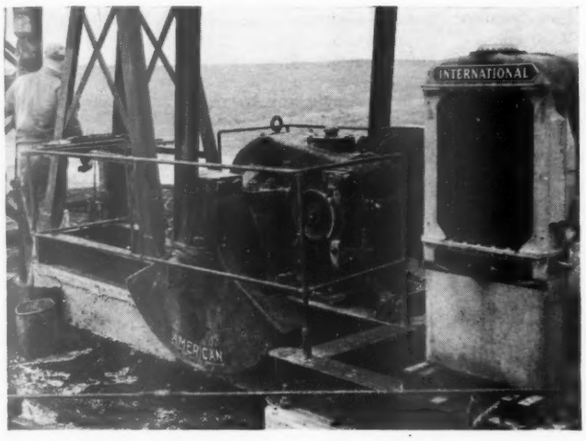
The nine lessons on use of shielded-arc electrodes cover the shielded arc and its uses; running horizontal bead; butt welds—no vee—no backing; horizontal arc welds; tee—fillet welds; vertical welds; vertical—lap and fillet welds; overhead—butt welds; overhead—lap and fillet welds; penetration—cutting.

Instruction in use of electrodes for particular joints and metals consists of 15 lessons, and eight lessons comprise instruction on hard facing. Text explanations are graphically supplemented by line drawings and photos for ready understanding. A valuable feature of the book is the questions on each of the lessons, enabling the student to check his knowledge.

Operating Ideas

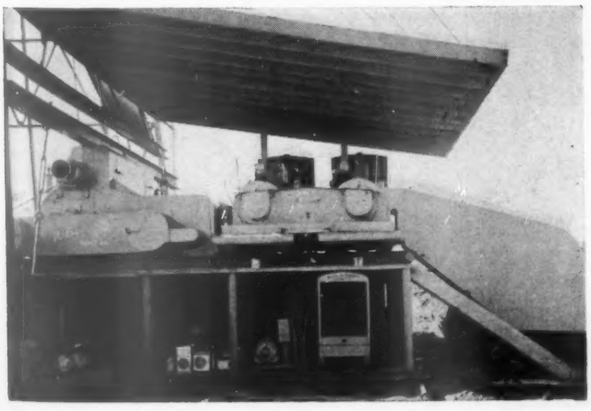
Removable Guard on Pumping Unit

A pumping unit setting out in a pasture where stock is grazed must have a guard to prevent the mules and cattle from becoming entangled in the stirrups and counterbalances. The guard must also be removable as adjustments are occasionally required. One Kansas operator uses 1-in. pipe nipples welded to the pumping unit frame for holding the guards made from ¾-in. sucker rods.



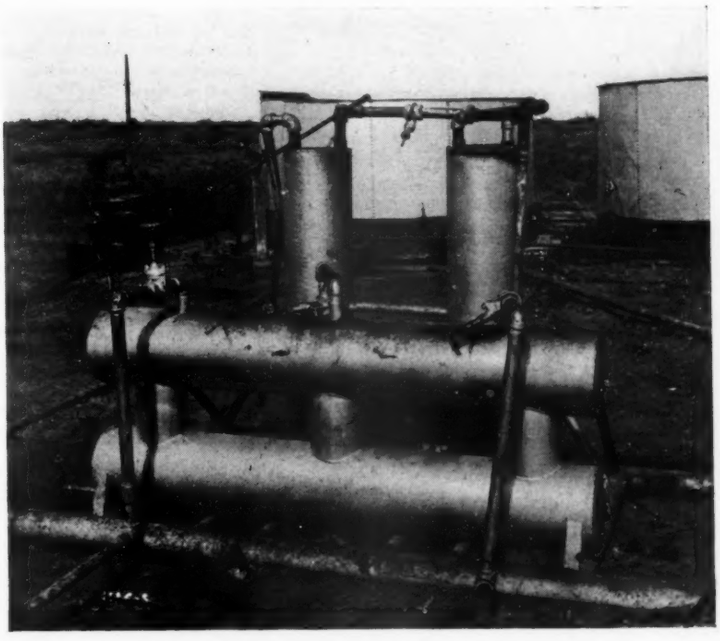
Auxiliary Unit Roof for Walkway

In the Hull-Silk field of North Texas one drilling contractor has devised the rotary rig setup shown in the accompanying photograph to obtain a walkway along the transmission side of the drilling engines. The auxiliary unit skid is roofed with a sheet of tank steel welded to angle-iron braces placed on the upright supports, so that when the unit is placed alongside the drilling-engine skid the roof serves as a walkway. A reinforced section of sheet steel is laid from the derrick floor to the skid to complete the walkway. This setup of equipment thereby eliminates need for extra flooring to be erected and torn down each time the rig is moved to a new location. Size of the auxiliary unit also allows one part of it to be used as a store place for greases and small oil cans.



Steel Supports for Suction Rack

A suction rack is as essential to the successful operation of a one-pump rig as it is to a two-pump rig. The photo shows the method used by one Illinois contractor for supporting the pipe used to lower and raise the suction. Two stands are made with a square base from 4-in. pipe with three 2-in. pipes coming together about 3 ft. from the base forming a pedestal. These are set on opposite sides of the pump suction. An extension of two of the 2-in. pipes prevents the winch-pipe from falling to the ground. Only one pair of chain tongs is needed to hold the winch-pipe in position.



Volume Tank and Dehydrator on Rig

One Texas contractor who has drilling rigs driven by internal-combustion engines using gas for fuel, uses the above arrangement on the gas line. It consists of two vertical and two horizontal tanks, all mounted with the regulator on a skid made from old pipe. Volume of the tanks is sufficient to allow the engines to be run long enough to get the pipe off bottom in case the gas line should break. Water and condensate in the gas is also removed in the tanks. The regulator is located between the horizontal and the vertical tanks so that it is protected. The vertical tanks serve as drips to remove water ahead of the regulator.

Progress in METALS

By W. L. NELSON

Modulus of Elasticity of Alloys

The following tabulation is taken from the article entitled "Modulus of Elasticity of Metallic Alloys," by L. Guillet, Jr., in the French journal, Rev. Met., Vol. 36, December 1939, pp. 497-521.

The modulus of elasticity is particularly valuable in the engineering design of machines and structures. Stated simply, this modulus may be defined as the load in pounds per square inch that will cause a material to stretch to the extent of 100 per cent. However, the factor can be used only to loads that do not exceed the elastic limit of the material—and thus, the total elastic deformation that is covered by the modulus of elasticity seldom exceeds 2 or 3 per cent and in no case approaches 100 per cent even remotely. The modulus appears to be related in an approximate way to the atomic volume and the melting point.

Metal—	Atomic volume	Melting point, °F. (approx.)	Modulus of elasticity lb./in.^{2}
Tungsten	9.6	6,620	59,740,000
Beryllium	4.9	2,330	51,200,000
Iron	7.1	2,790	29,870,000
Nickel	6.6	2,640	31,300,000
Platinum	9.1	3,220	23,180,000
Copper	7.1	1,980	17,920,000
Silicon	12.2	2,590	13,510,000
Gold	10.2	1,940	12,090,000
Zinc	9.2	790	11,380,000
Silver	10.2	1,760	9,960,000
Aluminum	9.9	1,220	10,380,000
Magnesium	13.9	1,200	6,400,000
Tin	16.3	450	5,690,000
Calcium	26.0	1,490	2,840,000
Lead	19.0	620	2,560,000

Metallurgical Terms

Forehand and Backhand Welding

Forehand welding is that method of welding in which the torch flame and welding rod are so disposed that the flame points ahead in the direction of welding and the rod precedes the flame.

Backhand welding is that method of welding in which the torch flame and welding rod are so disposed that the flame points back at the completed weld and envelops the molten puddle, and the rod is interposed between flame and puddle.

Normalized Casing and Tubing

Year by year the type of materials that are offered to the oil industry are increasingly strong and dependable. A recent announcement of this nature is made by the Republic Steel Corp. All of the casing and tubing of this company are henceforth to be heat treated by the process known as normalizing. Normalizing is defined as heating steel above the critical temperature range followed by cooling to below the range in still air. Some control of the operation is accomplished by regulation of the air temperature and controlling the movement of the air.

This treatment accomplishes several things, such as:

1. Removes variations in hardness caused by irregularities in the rate of cooling of steels having higher physical characteristics, such as those in casing and tubing.

2. Develops a more uniform microstructure.

3. Actually refines the grain structure.

4. Reduces certain nonuniform internal stresses which are detrimental to collapse efficiency.

5. In short, normalizing insures more uniform properties, not only along the length and around the circumference, but also from one pipe to another.

Of direct significance, the steel has a slightly higher strength, it has a greater ductility or resistance to shock loads, and is more dependable in physical properties. Collapse and joint-strength data are available in tabulated form in the company's bulletin entitled "Republic Electric Weld Casing—Normalized."

Alloy Iron Tube Sheets in Pipe Stills

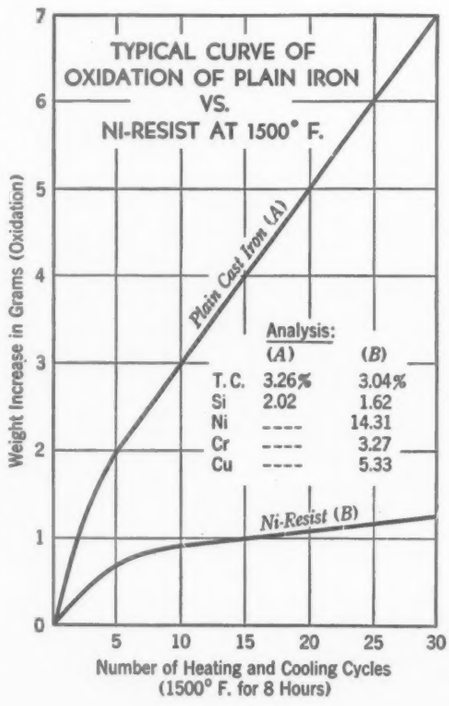
THE use of a high-alloy iron for tube sheets is reported by the Winkler-Koch Engineering Co., of Wichita, Kans. The iron has the following analysis:

ANALYSIS OF Ni RESIST

	Per cent
Total carbon	3.04
Silicon	1.62
Nickel	14.31
Chromium	3.27
Copper	5.33

Low-alloy or plain cast iron are usually employed for convection-section tube sheets but these materials are rapidly oxidized (rusted) at high temperatures and they expand and warp. A comparison of the rate of oxidation at 1,500° F. is shown in the accompanying illustration which was taken from "Nickel Cast Iron News" of March 1940.

Although the alloy iron is somewhat more expensive than unalloyed iron, it is said to be unnecessary to insulate the alloy iron from the hot gases, and for this reason the total cost of using alloy-iron tube sheets is thought to be less expensive than plain iron. The Ni-Resist castings were manufactured by the Carondelet Foundry Co., of St. Louis, Mo.



Flame Hardening Cast Iron

The following is taken to a large extent from an article by Fred G. Sefing, in the Iron Age of October 19, 1939, and from Nickel Cast Iron News (January 1940) of the International Nickel Co.

Flame hardening is a portable heat-treating process in the sense that the heat is carried to the work instead of the work being carried into the heat, as is true of quenching and tempering heat treatments. Castings such as cam tips, gear teeth, lathe bed ways, valve seats, etc., which are subject to wearing action over a localized portion of their surface can be thus treated to improve the wear resistance of the working surfaces and hence extend their useful life.

In general, flame hardening is carried out on heavy castings thick in section or complicated in shape and unsuited for heating in usual heat-treating furnaces. Thus, the localized hardening by flame heating becomes both practical and economical.

P. A. Abe* has shown how flame hardening has been successfully applied to lathe-bed ways. He explains the use of "a closely controlled nickel alloy cast iron . . . in which a careful balance of nickel, silicon, manganese, and molybdenum can be depended upon to eliminate hard spots of coalesced iron carbide and also to stabilize that portion of the carbide in the pearlitic matrix necessary for flame hardening to the fullest degree."

The choice of an alloyed cast-iron composition for flame hardening may be materially influenced by the selection of a desirable balance of physical properties, such as machinability, fine grain, toughness, strength, rigidity, etc., which are included in the main body or core of the casting.

Hardenability test results on nickel-molybdenum and nickel-chromimum-molybdenum irons demonstrate considerably greater hardness penetrations for these irons as compared with unalloyed iron. Since in flame hardening, the flame has a limited time in which to act, it would be expected that cast irons containing small amounts of the transformation-retarding alloys, would harden with greater certainty. Furthermore, alloys which lower the critical ranges should assist in producing a greater depth of penetration for a given temperature, because the temperature gradient from flame temperature at the surface to critical temperature below the surface would spread over a greater depth.

It is also evident that the lower the temperature to which the piece is heated, the less will be the distortion upon quenching. Since nickel and manganese lower the critical temperature range, while silicon and other elements raise it, obviously the optimum cast-iron compositions would contain as much of the "critical temperature-lowering" elements as practicable with others reduced to essential or necessary amounts. These considerations would indicate a general specification for a good flame hardening cast iron of the following analysis:

Total carbon	3.30% max.
Silicon	1.00/2.00
Manganese	0.60/1.00
Nickel	1.00/200
Chromium, Molybdenum, Vanadium	(total) 0.75% max.

A recent series of tests on flame hardening of plain and alloy irons has brought out the following conclusions:

1. An average surface hardness of 70 to 75 Shore, or 70 to 75 Rockwell A, or 40 to 50 Rockwell C can be attained by flame hardening cast iron using the proper flame manipulation. Equivalent to 500 to 550 Brinell.

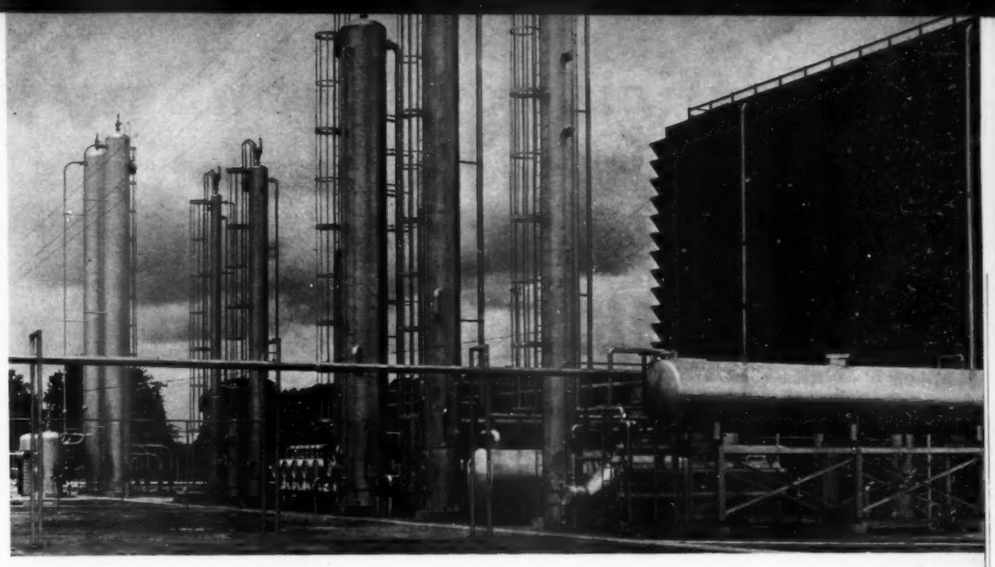
2. Addition of nickel, or nickel and chromium or molybdenum, to cast iron improves its response to this treatment so that less heat is required to produce a desired depth of surface hardness.

3. The lower critical hardening temperature of nickel alloyed irons assist in: (*a*) the production of a deeper hardness by the same heat input, and (*b*) less distortion per unit of depth.

4. Distortion stresses due to flame hardening increase with the depth of the hard layer in the same iron. Hence the hard layer should be kept at a minimum thickness for the type of service required.

5. From 25 to 40 per cent of the stresses set up by flame hardening can be relieved by annealing at 300° F. with only a 2 to 5-point drop in Rockwell A.

*"Flame-Hardened Lathe Beds," Metal Progress, July 1939.



Condensate recovery towers in Hunt Oil Co.'s plant at Long Lake consist of (left to right) absorbers, high-pressure reabsorber, low-pressure reabsorber, primary still, secondary still and stabilizer column

Gas Recycling Plant At Long Lake Shows Good Product Yield

By GEORGE WEBER

HUNT Oil Co. recently placed in operation a high-pressure absorption plant and pressure-maintenance system in the Long Lake field of East Texas. By means of efficient absorption and reabsorption of the condensate fraction in the high-pressure gas, a good recovery is maintained on gasoline and distillate products. The plant began initial operation June 21, after an 84-day construction period under turn-key contract with Hudson Engineering Co. of Houston. It is designed to process 55,000,000 cu. ft. of gas daily.

During the first month of operation plant production has exceeded the expected yield. Information on actual operating efficiency in stripping heavier hydrocarbon fractions from the gas are not yet available, but a thorough material balance is being run on the plant. At the present time, an average yield of 0.921 gal. of 8½-lb. product per 1,000 cu. ft. is being obtained.

The recycling project includes a field system of 12 producers and 2 injection wells. Lines from the christmas trees on output wells are looped, providing vertical meter runs in measuring gas production at the wells. Seal pots in the well meter settings are now half filled with water, which will be replaced with ethylene glycol in winter to prevent freezing.

The field gathering system comprises about 10 miles of heavy 12,000-lb. test lines, operating at a working pressure of 2,000 lb. per sq. in. Two separate systems serving six output wells each feed incoming gas to the plant in two 6-in. mains. Block valves on each main prevent reverse flow and incoming gas is again metered at the plant entrance.

After metering, a pressure drop to 1,500 lb. per sq. in. is maintained by regulators and the 55,000,000-cu. ft. stream is split and passed to the bases of two 24-tray high-pressure absorbers. Gas from the two absorbers is scrubbed in two high-pressure vessels equipped with liquid-level controls.

Inlet gas to the absorbers, after pressure reduction to 1,500 lb. per sq. in., has a temperature of about 73° F. No precooling before absorption is necessary. Since no inlet scrubbers are installed ahead of the absorber columns, water, which condenses with pressure drop, collects in the base of the high-pressure absorbers and is blown to burning pit.

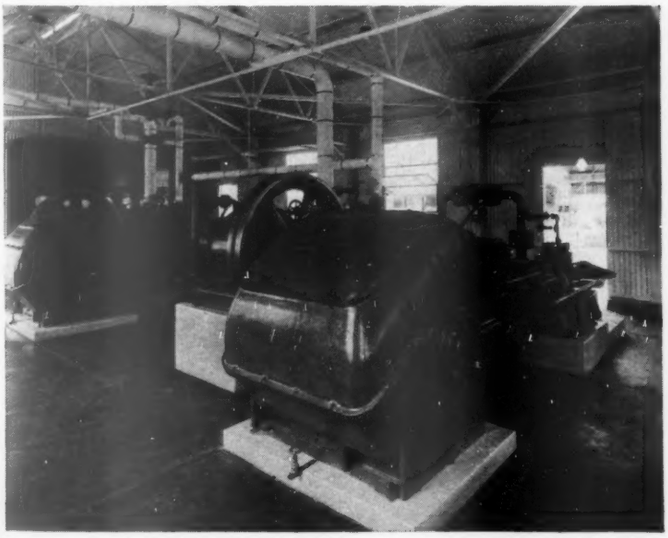
Two four-cycle 650-hp. eight-cylinder Ingersoll-Rand compressors take suction from the outlet of the scrubbers behind the absorption towers, recompressing the gas from 1,500 to 2,150 lb. per sq. in. and delivering it to the outlet gas header. The high-pressure gas leaves the plant in two 6-in. lines to injection wells in the field.

From compressors, jacket water is circulated in a closed system through the plant cooling tower and makeup is derived from the steam trap of the oil preheater in the stripping section of the plant. The lubricating-oil circuit is temperature controlled by shell-and-tube exchangers located in the compressor house which pass a stream from the jacket-water cooling system.

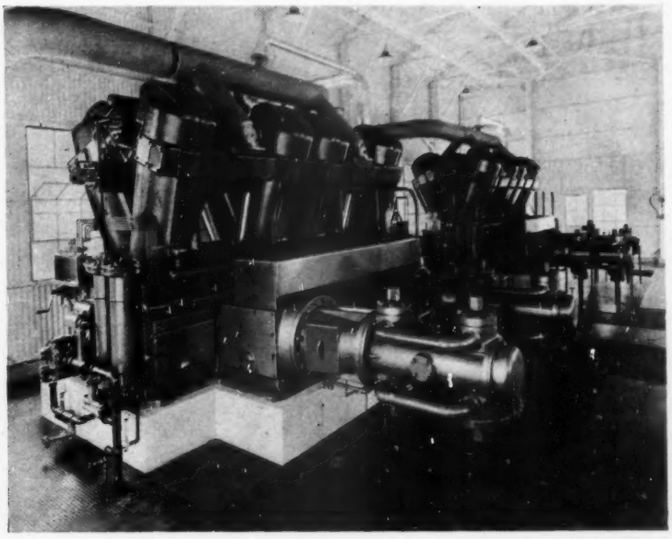
In addition to the regular oil filters with which compressors are equipped, the company engineer has designed and installed two large 55-gal. filters to condition the lubricating oil for the engines. A stream of circulating oil is continuously withdrawn from the hot end of each compressor, passed through the filters and returned to the governor case housing.

Each filter consists of a vertical cylinder packed

High-pressure lean oil pumps circulate absorption oil of the high-pressure absorbers and reabsorber at 1,500 lb.



Two four-cycle 650-hp. eight-cylinder compressors recompress gas from the absorbers from 1,500 to 2,150 lb.



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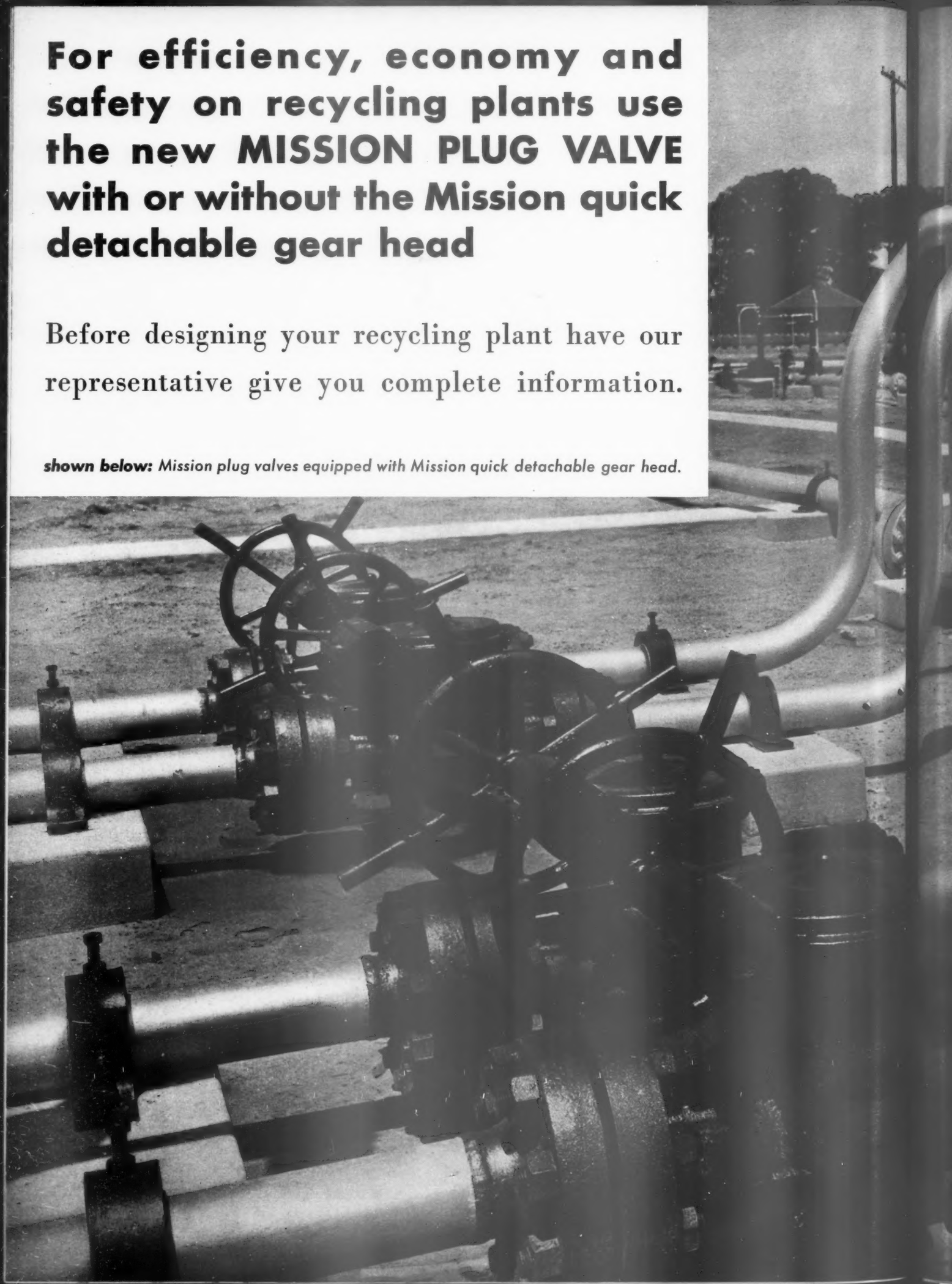

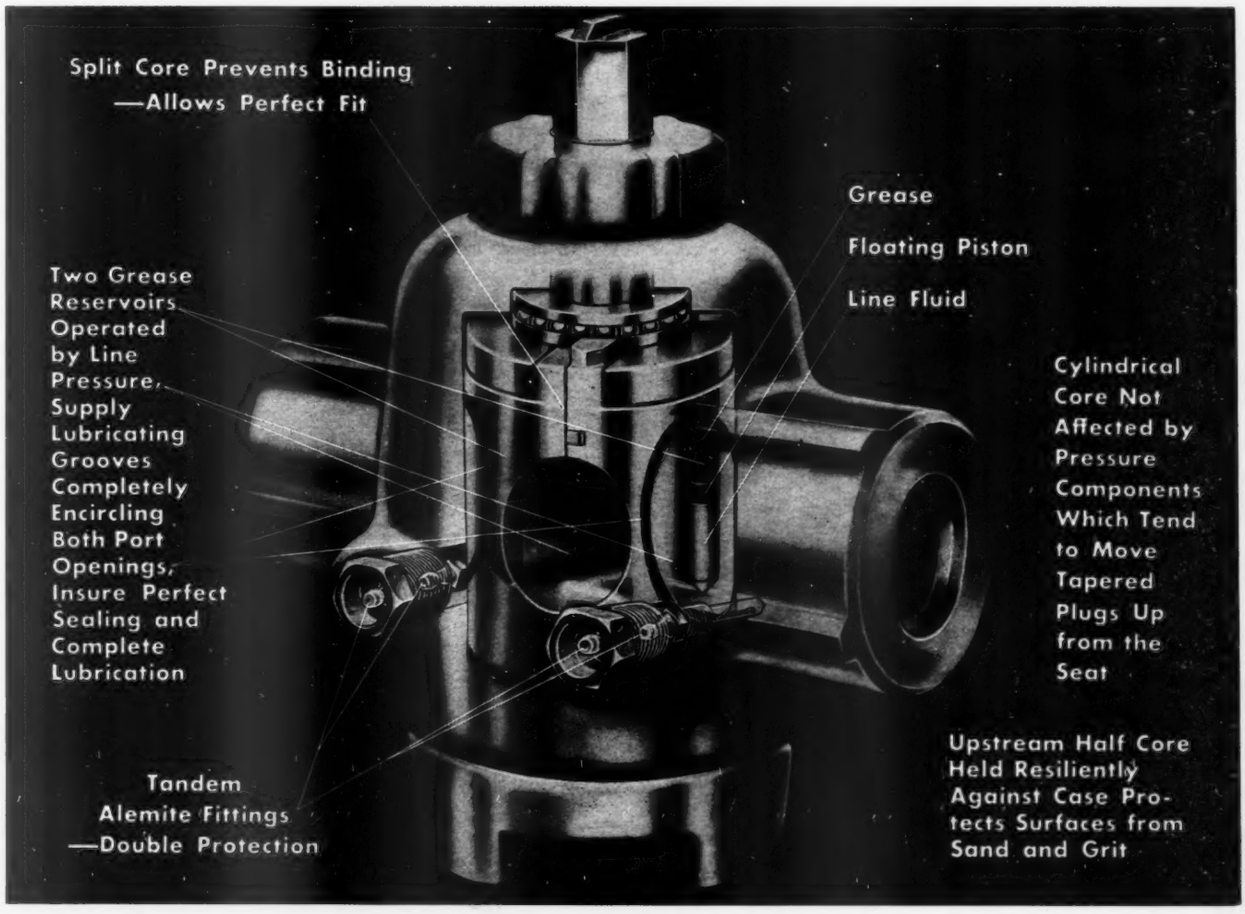
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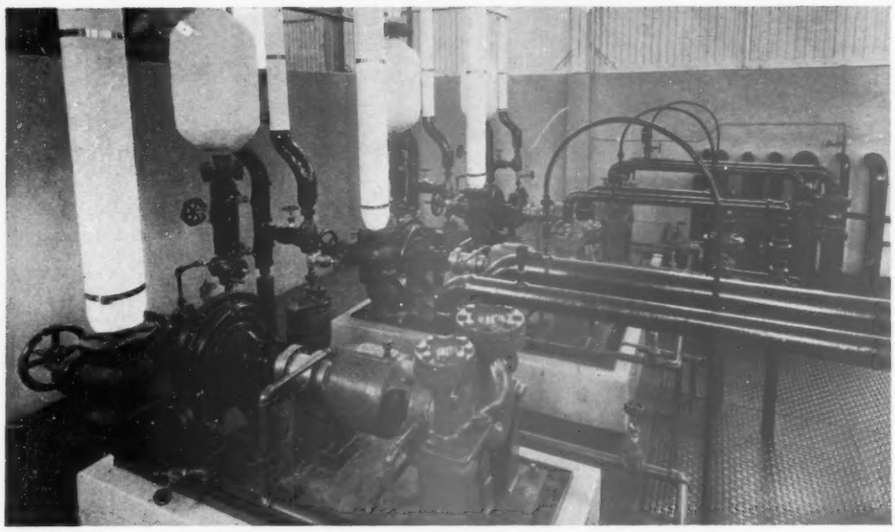


Centrifugal primary still reflux pump and rich-oil pump with standby pump in the background

with waste. A ¾-in. line wrapped in 100-mesh screen extends through the center of the filter. Oil enters at the top, passing down through the waste and through the screen to the central drain. Pressure gages on incoming and discharge lines indicate by their differential, when repacking is required. In addition to aiding the regular filters in keeping lubricating oil in good condition, the filters also relieve the load on the oil coolers with a temperature drop through the exterior circuit.

Absorption Cycle

Efficient absorption and reabsorption of flashed vapors provides a high recovery of liquid in the Hunt plant. Lean oil at 75° F. is circulated over the two absorbers at the rate of 135 g.p.m. Rich oil streams withdrawn from the bases of the high-pressure absorbers through liquid-level controllers, converge after reduction from 1,500 lb. to 455 lb. in the primary flash column. Vapors overhead from that vessel are introduced to the high-pressure reabsorber which operates at the same pressure, taking lean oil from the stream to the main absorbers. From the controlled liquid levels of the primary flash column and the high-pressure reabsorber, the rich-oil streams pass to the secondary flash column after pressure reduction to 180 lb. per sq. in. Vapors overhead from the secondary vessel pass to the low-pressure reabsorber.

After the second flash stage, the rich oil is heated from 60° to 390° F. by exchange with hot lean oil and charged to the primary still which operates at a working pressure of 90 lb. per sq. in. Stripping steam at the rate of 4,000 lb. per hour is admitted at the base of the primary stripper. Top temperature is maintained at 220° F., controlling the end point of the overhead gasoline fraction to 400° F.

After primary stripping, rich oil is flashed to 5 lb. per sq. in., preheated by steam and charged to the secondary still where it is completely stripped of distillate fraction with 2,000 lb. of process steam per hour. Overhead temperature of naphtha vapors is held at 310° F. Lean oil is withdrawn from the base of the still to the lean-oil surge tank, from which it is picked up by hot oil pumps, cooled by exchange with rich oil and cooling water, and charged from high-pressure lean-oil pumps at 1,500 lb. per sq. in. to the absorbers and high-pressure reabsorber.

The 400° end-point product from the primary still is condensed and run to the stabilizer feed tank. From there raw product is preheated by exchange and finished in the stabilizer column which maintains a top temperature of 125° F. Reboiler steam at the rate of 1,900 lb. per hour maintains a temperature of 322° F. at the base of the stabilizer column. The finished product is cooled by exchange with the incoming stream and further cooled by water before running to storage. Noncondensable vapors from the primary still reflux accumulator pass to the low-pressure reabsorber.

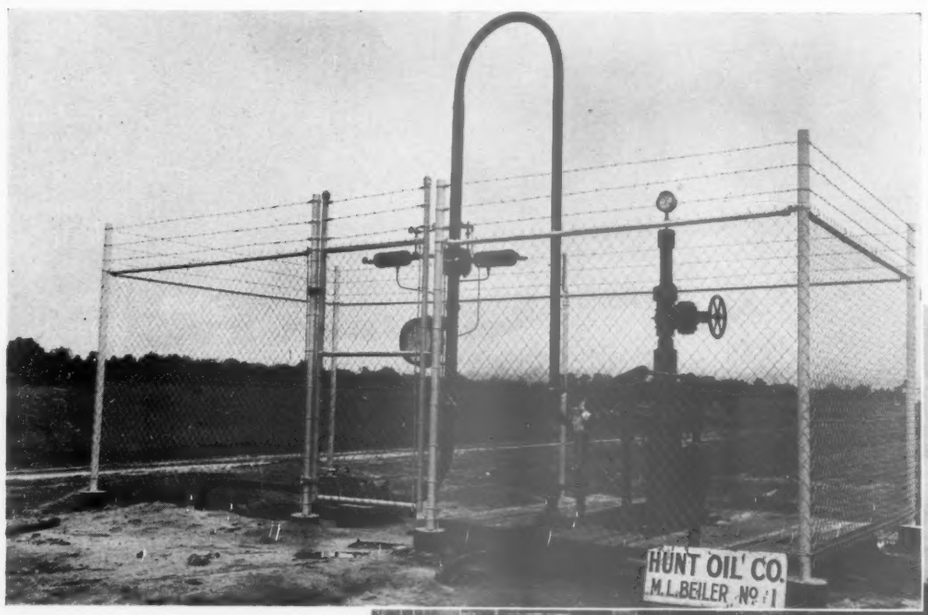
The distillate fraction overhead from the secondary still is condensed and cooled, run to the reflux accumulator from which it is withdrawn to storage. Residue gas from the stabilizer and two reabsorbers is used for boiler and engine fuel and field use.

Absorption oil is conditioned by bypassing a stream from the hot-oil pump discharge at 180 lb. per sq. in. through a small still which controls the overhead temperature of the mineral-seal vapors to 630° F. The reconditioned oil is returned to the plant system in the secondary still. Heavy ends, which are absorbed from the gas, are accumulated as bottoms and blown to burning pits. In addition to the bottoms, enough heavy distillate is absorbed from the gas to provide all absorption-oil makeup and produce about 600 gal. per week besides.

Safety Measures

All modern safety devices for high-pressure plant operation are incorporated in the Hunt recycling plant. Mercoid controls add to the safety factor of liquid-level controllers on the gas scrubbers by automatically shutting down compressors if liquid rises in the vessels to the danger point of carryover to suction lines. Automatic compressor shutdown on failure of oil or jacket-water circulation or for compressor overspeed is also provided.

Three plant safety switches are conveniently



Left: The plant takes gas from 12 high-pressure gas-condensate wells equipped with heavy surface connections and vertical meter runs. Below: Incoming gas to the plant enters in two mains shown to the right. The residue gas from the compressors leaves the plant in the line showing the expansion bend, and divides, injecting to two field key wells in opposite directions from the plant

located near the pump room and boiler and compressor houses. Each switch provides complete plant shutdown of all pumps and compressors, venting of plant gas to the flare line, blocking of incoming gas and quenching of boiler fires. The switches are located away from danger points and are easily accessible in case of emergency.

All high-pressure vessels are equipped with dual safety heads, and pop valves are installed on low-pressure vessels and boilers. To combat fire, chemical extinguishers serve the entire plant, in addition to a 150-lb. mobile engine equipped with 80 ft. of hose.

A.S.T.M. specifications A-150 were followed in fabricating high-pressure absorbers and gas scrubbers, which were stress relieved, and tested hydrostatically to 4,000 lb. per sq. in. Other plant vessels were fabricated according to A.S.T.M. A-70 specifications.

Because of a good supply of suitable water, steam power is used widely in the new plant. Steam is generated in six 125-hp. boilers, withdrawn from field use, reconditioned and tested to 500 lb. They furnish 250-lb. steam for power and process use throughout the plant. Closed steam systems minimize boiler water makeup needs, which are supplied by a 750-ft. water well. The water supply is lifted by high-pressure gas to a 2,000-bbl. overflow tank which provides adequate reserves in case of well failure. A raw-water pump, supplied by the well, passes 2,400 g.p.m. over the cooling tower at a 75-ft. head.

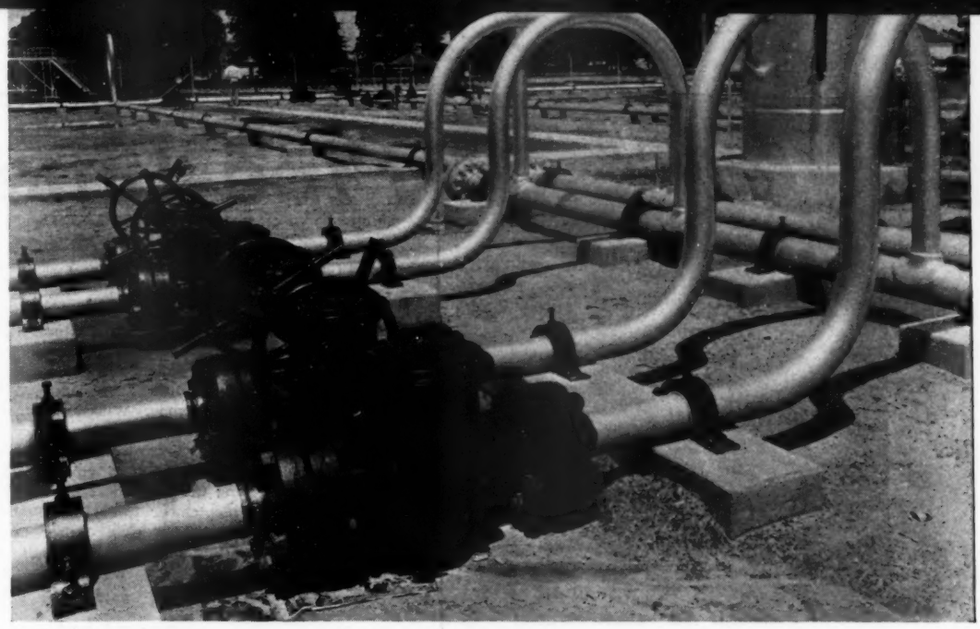
Electric power is provided by a 55-hp. steam turbine-driven generator which delivers 40 kva. alternating current at 220 volts to a four-wire system. A gas-engine-driven 25-kva. alternator is used as a standby.

Two high-pressure lean-oil pumps take suction on the absorption oil at 180 lb. per sq. in. and discharge to the high-pressure absorber and reabsorber lines at 1,500 lb. per sq. in. A stream of lean oil for the low-pressure reabsorber is taken off the hot-oil pump discharge at 180 lb. per sq. in.

All auxiliary pumps in the plant are steam reciprocating or steam turbine driven. Dual loading pumps with a capacity of 174 g.p.m. are electric motor driven.

Lubricating oil is distributed throughout the plant in a pressure system. Two 500-gal. tanks are held under air pressure of 20 lb. and serve hydrants in each building. Plant storage consists of eight 1,000-bbl. 40-lb. test tanks which carry a working pressure of 15 lb. per sq. in.

The plant is entirely controlled by instruments which are centralized in the pump house. An exterior instrument panel installed between the high-pressure gas scrubbers maintains equal gas and lean-oil streams through the two high-pressures absorbers.



Heavy valves are installed on compressor suction and discharge lines

●

New Tentative Standards Issued On Liquefied Petroleum Gas

Specifications and test methods for liquefied petroleum gas have been adopted as tentative standards by the Natural Gasoline Association of America and made available to the industry in a recently published bulletin, the new standards being effective September 1, 1940. Originally set up in April 1931, these specifications adequately served the industry during the intervening period. However, growth of the industry and the broadening use of liquefied petroleum gases brought the need for some modifications in standards.

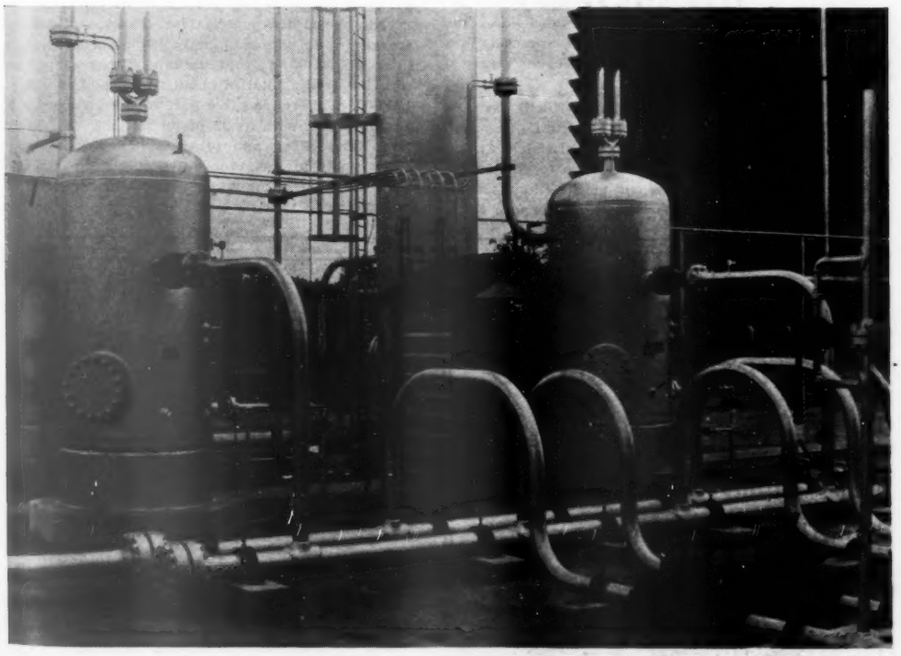
Among the major modifications in the original specifications was the inclusion of a broad general specification for butane-propane mixtures. Barometric corrections for the 95 per cent boiling points of these mixtures and for butane were also added and a total sulfur specification was included together with a test for making this determination.

Among properties specified for commercial propane, commercial butane and butane-propane mixtures were the following: The vapor pressure at 105° F. of butane, as determined by the liquefied-petroleum-gas vapor-pressure method, is not to exceed 75 lb. per sq. in. gage; that of propane and butane-propane mixtures not to exceed 225 lb. per sq. in. The quantity evaporated at a temperature of 34° F., corrected for barometric pressure of 740 mm. Hg, for butane and for butane-propane mixtures shall be 95 per cent or more by volume, as determined by the open-cylinder weathering test. Regarding water content of the liquefied gas, the specifications provide that commercial propane shall satisfactorily pass the standard cobalt bromide test, and commercial butane and butane-propane mixtures shall be free of mechanically entrained water.

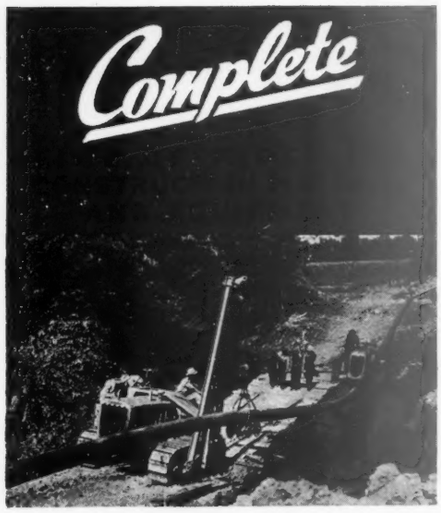
The tentative standards also provide that for butane, propane and butane-propane mixtures, "the product shall be free of hydrogen sulfide and shall not contain mercaptans, or sulfur compounds, of a corrosive nature. The unstenched product shall not contain total sulfur in excess of 15 grains per 100 cu. ft. of vapor as determined by the test for total sulfur in liquefied petroleum gases."

The bulletin covers test methods, giving the scope, apparatus, procedure and interpretation of results for the following tests: (1) Mercury freezing test—for determination of the nature and extent of contamination of commercial propane with heavier hydrocarbon materials. (2) Open-cylinder weathering test—for determination of the nature and extent of contamination of commercial butanes with heavier hydrocarbons. (3) Method for determination of vapor pressures. (4) Cobalt bromide test for qualitative determination of the water content of commercial propane. (5) Method for the determination of the specific gravity of volatile hydrocarbon liquids. (6) Method for the determination of total sulfur.

The new tentative standards can be obtained from the N.G.A.A. offices, 923 Kennedy Building, Tulsa, at a price of 25 cents each, with a reduction on large quantities.



The high-pressure absorbers and scrubbers shown here were tested to 4,000 lb. per sq. in. before going on stream. Suction and discharge lines to and from compressors are shown in the right foreground. The shed houses instruments which divide equally the gas and lean oil streams over the two absorbers



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Pipe-Line Activity

Natural Gas Pipeline Plans To Lay 62-Mile Extension

Specifications have been prepared by Natural Gas Pipeline Co. of America for the construction of the 62-mile gap in the 162-mile project for transporting gas from the company's trunk line to Milwaukee, Wis. A contract has been let to Dempsey-Wilson Construction Co. for a 100-mile 20-in. line from Geneseo compressor station northeastward toward Milwaukee to a point near Belvidere, Ill. Stringing of pipe will be done by Parkhill Trucking Co. which will start when shipments arrive about September 1. Parkhill Trucking Co. has a subcontract from Dempsey-Wilson Construction Co. The 62-mile line, for which specifications have been prepared, will extend the new line from the vicinity of Belvidere to Milwaukee.

Texas-New Mexico Lets Contract For 105-Mile Line to Latex

Texas-New Mexico Pipe Line Co. awarded a contract to Latex Construction Co. for a 105-mile pipe line from the Slaughter field, Hockley County, to Midland in West Texas. The route followed by the right-of-way lies east of the lines of other major companies. The new line will transport crude oil from the Slaughter area to a delivery point on the company's system. The line will consist of 4 miles of 14-in., 82½ miles of 8⅝-in. and 19 miles of 10¾-in. It is expected that the contractor will make his headquarters at Midland and work north. Construction will begin between September 15 and October 1 when deliveries of pipe will arrive. All the pipe except the 14-in. will be coated with a mastic coating.

Pacific Gas Plans Pipe Lines Costing $459,400

LOS ANGELES, Calif.—Pacific Gas & Electric Co. has announced plans calling for the construction of a feeder line that will provide the Fairfield Knolls gas field in Yolo County, California, with its first outlet. This gas field discovered by Standard Oil Co. of California on May 15, 1937, and now with two wells capable of commercial production, has been shut in since discovery. To tie the Fairfield Knolls gas field into existing main trunk lines will require only 42,000 ft. of 4½-in. welded line. Connection will be made with the 8-in. Davis-Spreckels line, a feeder to the main trunk. Cost has been estimated at $41,400.

In addition to providing the Fairfield Knolls gas field with its first outlet, Pacific Gas & Electric Co. has petitioned the California Railroad Commission to lay 19.7 miles of new gas-transmission line to connect its main trunk with the eastern end of the Rio Vista gas field. This will involve crossing the Sacramento River and for this reason the estimated cost has been placed at about $418,000. Early permission is anticipated inasmuch as the state will later benefit through the sale of its royalty gas.

Coal Mine Union Opposes Reserve Company Line

WASHINGTON, D. C. — Thomas Kennedy, United Mine Workers official, has asserted that the union would try to prevent the Reserve Gas Pipe Line Co., Dallas, Tex., from piping natural gas to three northern states as proposed in an application to the Federal Power Commission. The company estimated cost of the project at $80,000,000.

The company is quoted in a statement released by the Federal Power Commission as citing one of the reasons for the construction of this line to be "to aid in carrying forward the program of national defense."

Holland Lays Lines for Warren Petroleum Corp.

Holland Construction Co. has completed approximately 75 per cent of the lines being laid for Warren Petroleum Corp. near Salem, Ill. The lines are from 2-in. to 20-in. diameter; they are being laid to transport gas to the company's natural-gasoline plant in Section 20-2n-2e which is now half completed. Stringing of pipe for the lines has been handled by Parkhill Trucking Co.

Cathodic Protection Permit Issued To Southern Counties Gas

LOS ANGELES, Calif.—Southern Counties Gas Co. has been given permission to construct a cathodic-protection station on the north side of Dominguez drainage channel and east of Ford Avenue in the Wilmington district adjacent to Los Angeles Harbor.

Tide Water Conducts Reconditioning Work on California Lines

LOS ANGELES, Calif.—Tide Water Associated Oil Co. has awarded a contract for the reconditioning of sections of its San Joaquin Valley crude-oil pipe line between Silaxo and Trent stations. This reconditioning work involves a total of about 21 miles and will cost $125,000. This section is a part of the company's 280-mile pipe line, with its 22 pump stations, that extends from Kern River and other southern San Joaquin Valley fields to the Avon refinery on San Francisco Bay. The work undertaken is another step in a projected and partially completed program covering

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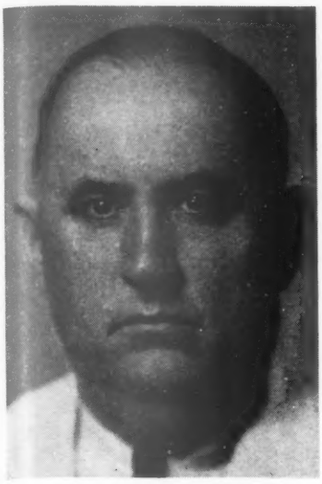
Pipe-Line Personalities . . . David R. Williams



DAVID R. WILLIAMS

DAVID R. WILLIAMS grew up in Louisville, Ky., where his father was a consulting engineer. He came to Oklahoma (Indian Territory) in 1898. In 1908 the firm of Williams Brothers was formed with his brother, S. Miller Williams. Headquarters have been maintained in Tulsa since 1916.

Since his return from service as first lieutenant of engineers in the World War, the firm has been engaged principally in pipe-line construction and has been identified with the construction of most of the large gas lines laid between 1925 and 1931. Since then it has handled pipe-line construction contracts in the United States, Canada, and more recently in Venezuela.

Some of these are among the longest projects undertaken by one contracting organization. In single contracts, 600 miles were laid for Panhandle Eastern, 400 miles for Texas-Empire, and recently 454 miles for Southeastern in Georgia. Most of the Denver line, all of the Memphis line, and the roughest sections of the Birmingham line were laid by the firm. The roughest work was done recently in West Virginia. The Venezuela job was exacting because of the careful planning required for sending all equipment, for completing the line, in one ship load.

Looking into the future, plans are being made to train a younger generation for executive positions to carry on the undertakings in the United States and South America.

Mr. Williams is married, has a son in Yale, a daughter in Sarah Lawrence, and a small daughter and son at home.

Since David R. Williams is a duck hunter he takes his vacations in the fall; his brother, S. Miller Williams, takes his in the summer because he is a fisherman.

reconditioning work and the conversion of an old screwed-pipe line, laid 30 years ago, into a completely welded unit. The sections located on bends above ground after reconditioning will be buried. Tentative plans call for completion of this reconditioning work later this fall.

Tide Water Associated Oil Co. is also considering the advisability of laying about 5 miles of pipe line from the Aliso Canyon field in Los Angeles County to General Petroleum Corp.'s main trunk line extending from Bakersfield to Los Angeles Harbor. This outlet would permit the latter to transport the former's production in the Aliso Canyon field to tidewater.

E. M. Campbell Builds Line For Oklahoma Natural

E. M. Campbell & Co. has completed 12 miles of the 19-mile 10-in. pipe line under construction for the Oklahoma Natural Gas Co. between Crescent and Edmond, Okla. In making a river crossing the company laid only one line instead of several, as has been the usual practice of this organization.

Manufacturers Gas Line Nearly Half Completed

Williams Brothers Corp., which operates under the name of Apex Construction Co. in Pennsylvania, has laid 50 miles of pipe in the construction of a line for the transportation of natural gas from Monaca, Pa., to the New York State line. Construction headquarters are at Brookville, Pa. Construction of the line is as follows: 12 miles of 16-in. o.d., 750 couplings; 6 miles of 12-in. i.d., 275 couplings; 26 miles of 10-in. i.d., 775 couplings, and 71 miles of 8-in. i.d. solid-welded line.

Stearns-Roger Has Contract for Panhandle Eastern Work

Panhandle Eastern Pipe Line Co. is having Stearns-Roger Manufacturing Co. build a dehydration plant at the Sneed booster station in Moore County, Texas. The company has also purchased 50 acres in Hansford County near the Oklahoma line on which will be constructed a compressor station. This plant will consist of 4,000 hp. Seven houses will be constructed on this site for employes and an office building. This part of the work has started.

Simral Corp. Plans to Build Pipe Line in Michigan

Simral Corp. has been clearing right-of-way for a 14-mile 6-in. line from the new discovery well of Sun Oil Co., McKenna No. 1, Section 15-19n-3w, Hamilton Township, Clare County, Michigan. The line will run from the well, through the Grout area to Beaverton, Mich.

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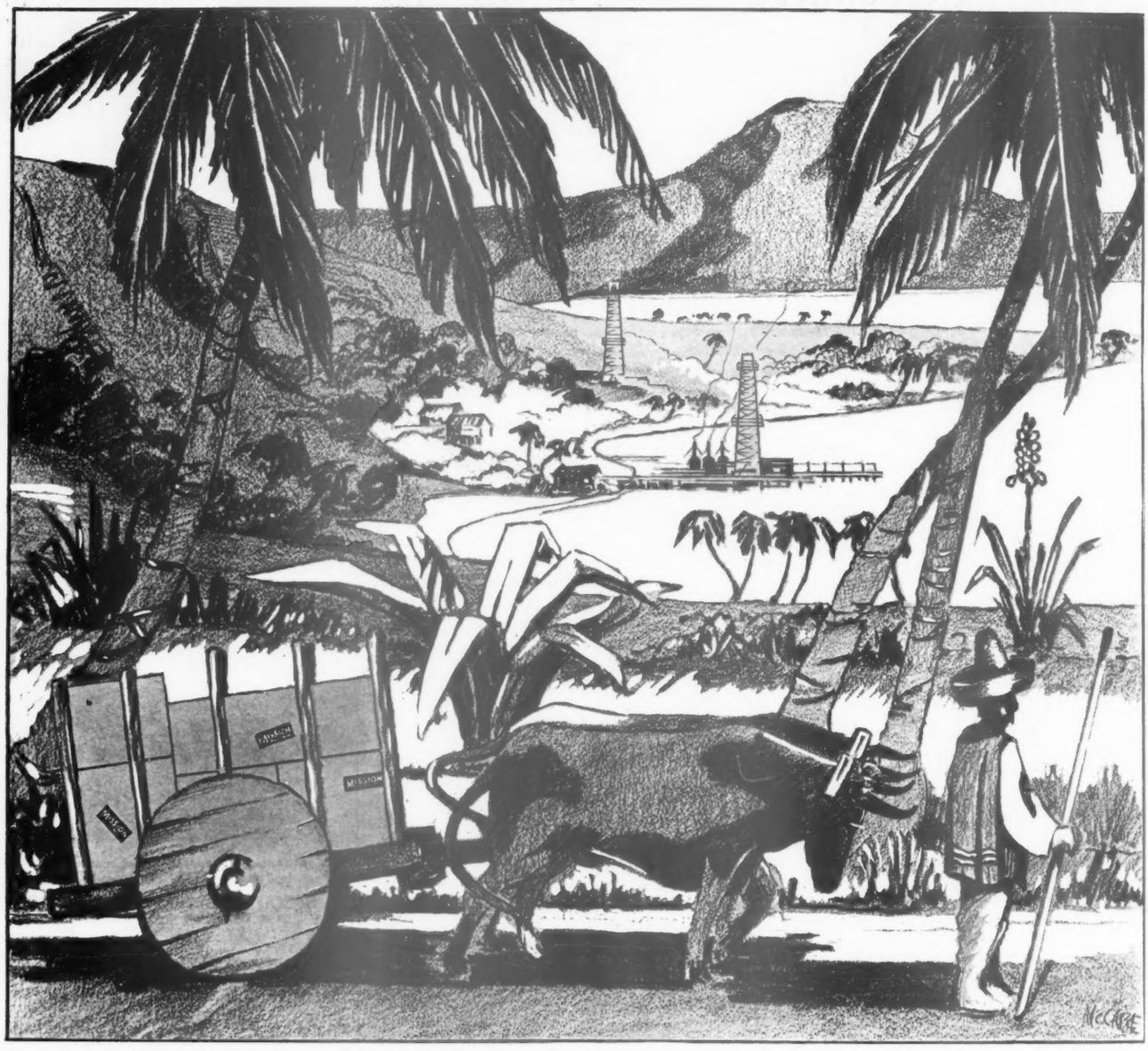
Forms Close Sept. 9
THE OIL AND GAS JOURNAL



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FIELD DEVELOPMENTS...

HIGHLIGHTS FROM THE WEEK'S NEWS—

FOREST CITY BASIN—The fifth producer in the Falls City, Neb., pool flowed 500 bbl. daily through tubing after acidizing Hunton lime at 2,244-58 ft. It is on the south edge of the pool. Testing continues at discovery well 11 miles north of Falls City, with wildcat pumping 400 to 500 bbl. daily from Hunton zone. Production of the Jefferson County, Kansas, discovery well was increased from 30 to 50 bbl. daily after acid treatment.

WEST TEXAS—Immediate development is seen for Ward County's recently opened Delaware gas field by Fitzpatrick & Slack. The discovery operators have staked a 1½-mile southeast outpost.

WEST CENTRAL TEXAS—The discovery of a new shallow field on the Callahan and Shackelford County line, together with the completion of the Stribling field's new deep-horizon discovery, held attention in this area.

NORTH TEXAS—Shows of oil which were considered in one case sufficient for commercial production were found at wildcats in southwestern Montague County and extreme northern Wise County.

EASTERN TEXAS—Renewed efforts by Shamrock Oil & Gas and Lone Star Gas to develop the Opelika field in Henderson County held the interest of this district. New wells are being drilled and the old ones reworked.

KANSAS—Discovery well in the second Phillips County pool produced 858 bbl. of oil in 24 hours on initial physical pumping test. A Lansing lime pool was opened in the Ellinwood district, Barton County, and an Arbuckle pool was opened southwest of the Richardson area, Stafford County. Another Stafford County wildcat had oil showing and gave promise of opening a pool. Five producers were completed in the Severy pool, Greenwood County.

OKLAHOMA—A Kiowa County wildcat opened a pool in Arbuckle lime at total depth of 955 ft. An outpost midway between the Sac and Fox and Davenport pools in Lincoln County gave promise of opening a Prue sand pool. Discovery wells were completed in Lincoln, Okfuskee and Pottawatomie counties.

CALIFORNIA—Inglewood appears to have a deep pay at 8,337 ft. as Bush 1 Sentous shows pipe-line oil on a drill-stem test.

SOUTHEAST NEW MEXICO—Chaves County led the district during the week by receiving three new wildcat locations. Completions in this district dropped to one each for Eddy and Lea counties.

GULF COAST LOUISIANA—A well flowing 653 bbl. from a new sand at 8,230 ft. is expected to start the Iowa field off on a new lease of life.

GULF COAST TEXAS—With one wildcat flowing 16 bbl. of distillate through ⅛-in. choke and six scattered wildcats starting, Galveston Bay threatens to become the Gulf Coast's most interesting region.

SOUTHWEST TEXAS—East Flour Bluff received a 1,300-ft. southeast extension as Humble 1-E State flowed 160 bbl. from 6,804-09 ft.

COMPLETIONS IN ALL FIELDS . . .

(Week Ended August 24, 1940)

	Oil	Gas	Dry	Total	1940 total comp. to date	1939 total comp. to date
N. Y., Pa., and W. Va.	105	22	5	132	4,012	2,375
Ohio	8	11	9	28	1,011	449
Indiana	8	0	3	11	273	169
Kentucky	4	0	3	7	271	468
Illinois	59	2	30	91	2,464	2,277
Michigan	2	0	14	16	766	919
Kansas	37	1	4	42	1,157	803
Oklahoma	17	1	14	32	1,170	1,203
Texas:						
North Central Texas	17	0	6	23	1,917	1,583
West Texas	25	0	1	26	1,234	1,167
Texas Panhandle	10	6	0	16	407	259
Eastern Texas	13	2	4	19	380	486
Gulf Coast Texas	14	0	2	16	838	882
Southwest Texas	14	0	15	29	1,450	1,669
Total Texas	93	8	28	129	6,226	6,026
North Louisiana	7	0	1	8	382	344
Gulf Coast Louisiana	15	0	2	17	692	424
Total Louisiana	22	0	3	25	1,074	768
Arkansas	3	0	3	6	125	171
Montana	2	0	1	3	134	109
Wyoming	3	0	0	3	104	84
Colorado	0	0	0	0	11	15
New Mexico	3	0	4	7	384	364
California	13	0	1	14	678	604
Miscellaneous	3	0	2	5	126	23
Total United States	382	45	124	551	19,986	16,829
Total previous week	419	50	136	605		
Week ended Aug. 29, 1940	277	37	120	434		

SUMMARY OF OUTSTANDING FIELDS . . .

(Week Ended August 24, 1940)

FIELD—	Active operations	Oil completions	Initial prod.	Total No. oil wells	Daily av. prod.
TEXAS					
K.M.A.	42	3	1,158	1,435	33,665
Wasson	57	4	5,431	912	24,360
Ector County	48	7	8,717	2,238	42,800
Hull-Silk	31	2	858	334	7,165
Jones County	16	0	0	629	6,200
East Texas	16	9	278	25,989	374,848
OKLAHOMA					
Oklahoma City	14	1	570	836	97,600
Cumberland	8	0	0	4	2,000
KANSAS					
Bornholdt	18	6	1,092	110	2,220
Stoltenberg-Wilkens	19	3	695	124	3,600
Burnett	5	3	1,152	119	5,300
Trapp	11	1	243	568	14,250
LA-ARK-TEX					
Cotton Valley, La.	4	0	0	163	13,750
Olla, La.	10	2	432	22	2,580
MICHIGAN					
Adams	12	0	0	1	1,695
Hamilton	3	0	0	1	214
ILLINOIS					
Salem	68	18	10,943	2,247	166,300
Centralia	10	1	1,081	715	33,800
Louden	20	9	2,029	1,587	76,500
Other basin fields	216	31	5,613	2,441	94,400
Old fields	....	....	.....	.....	10,300
NEW MEXICO					
Lea County	46	1	93	2,543	85,280
Eddy County	54	1	132	605	16,530
MISSISSIPPI					
Tinsley	10	3	1,780	71	19,061

By
STAFF CORRESPONDENT

Declining Activity Indicated As Production Drops

MATTOON, Ill., Aug. 26.—Illinois production declined 12,400 bbl. to 381,300 bbl. during the week ended August 24. Of this decline, Salem was responsible for 4,900 bbl., Centralia for 2,200 bbl., Louden for 700 bbl. and other new fields for 2,900 bbl. Old fields were off 700 bbl.

The most noteworthy development in the basin was the finding of McClosky production in Superior 4 Fitton, NE SE NE 24-4s-14w, White County, marking the first McClosky production in this area. The well made 157 bbl. from pay between 2,897 and 2,904 ft.

Of the 91 completions during the past week in Illinois, 59 were producers, 2 gas wells, and 30 dry holes. Of these, Salem had 18 producers, Louden 9, and Centralia 1. Seventy wells were started in the state of which 15 were in Louden and 13 in Wayne County. The Woburn pool in Bond County is being rapidly drilled up, with three producers in the past week and five wells started in addition to the three drilling.

Magnolia's two offsets to the discovery well came in as small producers, both making water and it looks as though the pool will be of minor importance.

Drilling activity is slackening in Illinois with a total of 314 active operations at the present time. Marion County has 70 of these, White County 42, Fayette County 34, Wayne County 29, and Clinton County 22. These five counties, with a total of 197 operations, or nearly two-thirds of the total are those in which the oldest fields in the basin are located, with the exception of White County. To these may be added Clay (2 operations), Richland (11), Wabash (25), making a total of 235 drilling wells in the more intensively drilled parts of the area. Recent discoveries do not bring the rush of operations as earlier ones did and there are only four operations in Montgomery, with two recently discovered pools, seven in Bond County, two in Washington, and nine in Hamilton. The boom seems to be about over and the prospects are for declining routine activity and also declining production unless a major discovery turns the tide again.

ILLINOIS COMPLETIONS

Adams County

Menne 1 H. Summers . . . . . NW NW SW 13-1n-9w
Dry. Niagaran 355 ft., T.D. 465 ft.

Bond County

J. Powell 1 Charles Hunter . . . . . SW SE SE 1-4n-4w
Abandoned location.
Max Pray 1 Buchanan . . . . . SW NW SW 2-6n-2w
Dry. Cypress sand 935 ft., Benoist 1,038-48 ft., T.D. 1,053 ft.
Magnolia 1 J. Elam . . . . . SW SW SW 3-6n-2w
Pumped 26 bbl. oil and 22 bbl. water in 22 hr., 5-qt. shot, Benoist 1,023-31 ft., T.D. 1,040 ft., P.B. to 1,033 ft.
Magnolia 1 W. H. Grigg . . . . . NW NW NW 9-6n-2w
Pumped 70 bbl. oil and 36 bbl. water, 30-qt. shot, Benoist 1,022-36 ft.
National Pet. 2 Spindler Inv. . . . . 495 ft. to S and E of NW cor. 10-6n-2w
Pumped 223 bbl., 20-qt. shot, Benoist 1,004-23 ft.

Clark County

Harr 1 Pinnell . . . . . SE NW SE 6-11n-14w
Dry. Elev. 565 ft., Trenton 2,230 ft., T.D. 2,595 ft.

Centralia Field—Clinton-Marion Counties

Adams 23-D Copple . . . . . E½ SE SW 35-2n-1w
Flowed 1,081 bbl., 5,000 gal. acid, Devonian 2,887-97½ ft.

Clinton County

Williams 1 Bach . . . . . NW NW NW 21-1n-1w
Dry. Elev. 423 ft., Devonian 2,695 ft., T.D. 2,739 ft.
Blalock 3 Brameier . . . . . SE NW SW 2-1n-2w
Dry. Benoist 1,342 ft., T.D. 1,375 ft.
Benoist 6 E. Knolhoff . . . . . NW NE NW 11-1n-2w
Pumped 60 bbl. oil and 6 bbl. water, 2-qt. shot, Benoist 1,319-23 ft.
Max Pray 2 Monken . . . . . NE SW NW 11-1n-2w
Pumped 50 bbl. oil and 25 bbl. water, 3-qt. shot, Benoist 1,326-27 ft.

Coles County

Carter 1 M. S. Pinnell . . . . . W½ SW SE 26-12n-7e
Dry. T.D. 2,107 ft.

Louden Field—Fayette County

Carter 1 May Baker . . . . . SE NE SE 35-9n-3e
Pumped 120 bbl., Cypress 1,520-48 ft., 20-qt. shot, T.D. 1,548 ft.
Carter 2 G. Wood . . . . . NE SE NW 10-8n-3e
Pumped 66 bbl. oil and 3 bbl. water, 20-qt. shot, Cypress 1,514-34 ft.
Carter 2 Willie Logue . . . . . NW NE SW 23-8n-3e
Pumped 816 bbl., 5 and 60-qt. shots, Cypress 1,469-1,505 ft., Bethel 1,562-70 ft.
Carter 4 Willie Logue . . . . . SE NE SW 23-8n-3e
Pumped 360 bbl., 60-qt. shot, Cypress 1,476-1,505 ft.
Carter 1 G. R. Owens . . . . . SE SW SW 8-7n-3e
Pumped 282 bbl., 15, 20, 10, and 40-qt. shots, Cypress 1,438-1,504 ft., Paint Creek stray 1,536-50 ft., Bethel 1,560-73 ft.
Carter 2 G. R. Owens . . . . . SE SW SW 8-7n-3e
Pumped 198 bbl., 10, 15, and 30-qt. shots, Cypress 1,456-1,520 ft., Paint Creek stray 1,546-59 ft., Bethel 1,568-79 ft.
Carter 7 W. Hawkins . . . . . SE NE SW 17-7n-3e
Pumped 30 bbl., 60-qt. shot 1,506-30 ft., Cypress 1,485-1,529 ft., Paint Creek stray 1,562-71 ft.
Luttrell 1 Tucker . . . . . NW NW NE 21-7n-3e
Pumped 100 bbl., 20-qt. shot, Cypress 1,563 ft., T.D. 1,578 ft.
Texas 10 O. Weatherley . . . . . SW SW NE 6-6n-3e
Pumped 57 bbl. naturally, Cypress 1,573-85 ft., T.D. 1,587 ft.

Fayette County

Ohio 2 C. T. Williams . . . . . NW SW SE 36-6n-3e
Pumped 80 bbl., 8-qt. shot 1,599-1,619 ft.

Franklin County

E. S. Adkins 1 Old Ben Coal Co. NE NE SE 23-6s-3e
Dry. Tar Springs 2,180 ft., Golconda 2,391 ft., Bethel 2,710 ft., Aux Vases 2,777 ft., Ste. Genevieve 2,880 ft., Fredonia 2,891 ft., St. Louis 3,060 ft., T.D. 3,102 ft.

Fulton County

Lee Twp. Oil Co. 1 K. Frederick NE SE NW 10-7n-1w
Dry. H.F.W., Niagaran 703-810 ft.

Edwards County

Superior 3 Woods . . . . . SE NW NW 18-2s-11e
Pumped 419 bbl., 5,000 gal. acid, McClosky 3,068-81 ft., T.D. 3,084 ft.
Superior 4 Woods . . . . . SW SE SW 18-2s-11e
Pumped 433 bbl., 5,000 gal. acid, McClosky 3,070-75 ft., T.D. 3,087 ft.

Hamilton County

Lain 1 Hood . . . . . SE SW SW 34-5s-1e
Dry. Bethel 2,975 ft., Aux Vases 3,072 ft., Ste. Genevieve 3,105 ft., T.D. 3,246 ft.
R. Halbert 1 Lockwood . . . . . NE NE NW 23-6s-5e
Dry. Cypress 2,789-2,805 ft. water, Benoist 2,997 ft., Aux Vases 3,050 ft. show oil, Ste. Genevieve 3,115 ft., T.D. 3,257½ ft.

Jackson County

Marellin 1 M. W. Baysinger . . . . . SW SW SW 32-10s-3w
Dry. Silurian 812 ft., Fernvale 1,205 ft., Kimmswick 1,220 ft., Decorah 1,345 ft., Platteville 1,370 ft., St. Peter 2,288 ft., T.D. 2,294 ft.

Jefferson County

Magnolia 2 E. L. Severs . . . . . SW SW NE 22-2s-1e
Dry. Ste. Genevieve 2,210 ft., T.D. 2,276 ft.
Terrace Oil 1 Chesnek . . . . . SE NE SE 21-2s-1e
Dry. Ste. Genevieve 2,169 ft., T.D. 2,279 ft.

Jasper County

Pure 1 J. Carney . . . . . W½ NW SE 17-5n-10e
Flowed 725 bbl., McClosky 2,785-92 ft. and 2,895-97 ft., T.D. 2,820 ft.

Lawrence County

Schmidt 1 C. E. Martin . . . . . W½ NE SE 5-2n-12w
Dry. Buchanan 1,522 ft., Benoist 1,990 ft., Ste. Genevieve 2,170 ft., T.D. 2,255 ft.
W. L. Dorsey 1 E. Vandermarck SE SW NW 2-2n-12w
Dry. Buchanan 1,325 ft. show oil, Ste. Genevieve 1,760 ft., T.D. 1,834 ft.

Macoupin County

Payton & McGraw 1 S. Friend SE NE NW 35-11n-6w
Dry. H.F.W. 135 ft., sand 578-90 ft., T.D. 625 ft.
Adams & Leagers 1 J. A. Cole SE NW NE 2-10n-6w
Dry. Water 440-60 ft., slight show oil 563-64 ft., T.D. 633 ft.
Adams & Leagers 1 J. E. Cole SE NW SW 2-10n-6w
Dry. Slight show oil 550 ft., H.F.W. 740 ft., T.D.
Lee & Cover 1 Banning . . . . . NE SW SW 12-10n-6w
Dry. Sand 610-12½ ft., T.D. 675 ft.

Madison County

Corbett 1 J. Keller . . . . . NE SE SE 7-3n-6w
110,000 cu. ft. gas. T.D. 1,285 ft., P.B. to 1,276 ft.

Marion County

H. & K. Drilling 1-A Neilson . . . NE SW NW 20-4n-2e
Dry. T.D. 2,145 ft.

Salem Field—Marion County

Tex Harvey 13 Kagy . . . . . NE NW SE 23-3n-2e
Pumped 50 bbl., Aux Vases 2,005-38 ft., T.D. 2,044 ft.
Magnolia 113 J. H. Young . . . . . SW NE NW 28-2n-2e
Pumped 82 bbl. oil and 20 bbl. water, 4,000 gal. acid, Devonian 3,462-97 ft.
Rockhill 4 Hadley . . . . . NW NE NE 28-2n-2e
Pumped 85 bbl., 20-qt. shot, Benoist 1,861-72 ft.
Texas 10 Stroup . . . . . SE SW NE 30-2n-2e
Dry. Benoist 1,879-99 ft.
Lain 14 Dempsey . . . . . SW NE SW 31-2n-2e
Flowed 400 bbl. oil and 4 bbl. water, 700 gal. acid, Devonian 3,423-43 ft., T.D. 3,472 ft.
Texas 24 J. Cannull . . . . . SW SW SE 31-2n-2e
Flowed 667 bbl., 5,000 gal. acid, Devonian 3,353-82 ft., T.D. 3,420 ft.
Texas 29 W. Stroup . . . . . SW NW NW 31-2n-2e
Flowed 675 bbl., 5,000 gal. acid, 3,461-90 ft.
Texas 30 W. Stroup . . . . . NE SW NW 31-2n-2e
Flowed 205 bbl., 5,000 gal. acid, Devonian 3,408-35 ft., T.D. 3,455 ft.
Texas 5 McConnaughey A . . . . . SW SE SE 32-2n-2e
Flowed 361 bbl., 5,000 gal. acid, McClosky 1,969-73 ft., Salem 2,228 ft., T.D. 2,320 ft., P.B. to 2,280 ft.
Texas 22 T. Easley . . . . . NW SW NE 33-2n-2e
Flowed 435 bbl., 5,000 gal. acid, Devonian 3,505-20 ft.
Texas 21 B. Hawkins . . . . . W½ NE NW 8-1n-1e
Flowed 728 bbl., 5,000 gal. acid, Devonian 3,480-88 ft.
Texas 10 C. Reed-A . . . . . NW NE NW 3-1n-2e
Flowed 310 bbl., 9,000 gal. acid, McClosky 1,862-1,932 ft., Salem 2,111-25 ft. and 2,135-45 ft.
Texas 16 Richardson . . . . . SW SE NW 5-1n-2e
Flowed 510 bbl., 5,000 gal. acid, Devonian 3,400-15 ft., T.D. 3,452 ft.
Texas 14 C. Bundy . . . . . NE NW NE 6-1n-2e
Flowed 350 bbl., natural, Devonian 3,385-95 ft., T.D. 3,447 ft.
Texas 8 G. Johnson . . . . . NE NE NW 6-1n-2e
Flowed 237 bbl., 2,000 gal. acid, Devonian 3,492-3,501 ft.
Texas 22 G. Johnson . . . . . SE SE NE 7-1n-2e
Flowed 1,660 bbl., 5,000 gal. acid, Devonian 3,430-58 ft.
Texas 23 G. Johnson . . . . . SW SE NE 7-1n-2e
Flowed 1,502 bbl., natural, Devonian 3,455-69 ft.
Texas 9 W. Carr-A . . . . . SE SW NW 8-1n-2e
Flowed 1,438 bbl., 5,000 gal. acid, Devonian 3,440-60 ft. and 3,469-77 ft., T.D. 3,500 ft.
Texas 10 W. Carr-A . . . . . SW SW NW 8-1n-2e
Flowed 1,248 bbl., 5,000 gal. acid, Devonian 3,420-50 ft., T.D. 3,487 ft.

Monroe County

Kreigh & Walker 5 H. Kolman NW SE NW 2-2s-10w
Pumped 50 bbl. oil and 500 bbl. water, 60-qt. shot, Trenton 411 ft., old well deepened from 125 ft. to 458 ft.

Montgomery County

Jack Brown 1 Lipe . . . . . SW SW SE 28-10n-3w
Dry. Devonian 2,076 ft., T.D. 2,110 ft.

Perry County

Stanolind 1 W. R. Kimsey . . . . . SW NW SE 4-5s-1w
St. Louis 1,740 ft., Salem 1,990 ft., Warsaw 2,210 ft., Osage 2,380 ft., Chattanooga 3,000 ft., Devonian 3,005 ft., T.D. 3,185 ft.

Richland County

Duncan 1-A Schilling . . . . . S½ SE NE 32-4n-9e
Pumped 230 bbl., 5,000 gal. acid, McClosky 2,970-80 and 2,986-90 ft., T.D. 3,002 ft.
Pure 1 Kermickle Consol. . . . . W½ SW SE 31-5n-10e
Flowed 246 bbl., natural, McClosky, T.D. 2,850 ft.
Pure 2 Glassbrenner . . . . . W½ NE NW 31-5n-10e
Pumped 120 bbl., 5,000 gal. acid, McClosky 2,778-95, 2,834-40, and 2,846-49 ft., T.D. 2,875 ft.
Pure 2 P. Klinger . . . . . W½ SE NE 1-3n-9e
5,000,000 cu. ft. gas, McClosky 2,788-2,802 ft., show oil, 2,843-50 and 2,858-60 ft. gas, T.D. 2,880 ft.

Saline County

J. Rowe 1 Summers . . . . . SW SW SW 18-8s-6e
Benoist 2,700 ft., Aux Vases 3,072 ft., Ste. Genevieve 3,105 ft., T.D. 3,142 ft.

Wabash County

W. E. Hupp 1 Milligan . . . . . SE SE SE 3-1n-13w
Pumped 40 bbl., 3,000 gal. acid, McClosky 2,714-30 ft., T.D. 2,724 ft.
J. G. McNeil 1 Jilton . . . . . NE NE SE 4-1n-13w
Dry. Cypress 2,404 ft. water, Bethel 2,519 ft. water, Ste. Genevieve 2,628 ft., T.D. 2,691 ft.
B. Lambert 1 Seiler-B . . . . . NE NE NE 34-1s-13w
Pumped 315 bbl., 3,000 gal. acid, McClosky 2,616-77 ft., T.D. 2,628 ft.
Tide Water 1 Seiler . . . . . NW NW NW 35-1s-13w
Pumped 1,158 bbl., McClosky 2,605 ft., T.D. 2,624 ft.
Longhorn Oil 2-A Helm . . . . . SW NW NE 23-3s-14w
Flowed 400 bbl., 4,000 gal. acid, McClosky 2,850-59 ft., T.D. 2,864 ft.

Washington County

Shell 1 W. E. Brown . . . . . SW NW SW 23-1s-1w
Pumped 33 bbl. oil and 19 bbl. water, shot, Cypress 1,409 ft., T.D. 1,552 ft., P.B. to 1,542½ ft.
Magnolia 6 J. Barzewski . . . . . NE SE NE 15-3s-3w
Pumped 30 bbl., 10-qt. shot, Benoist 1,253-68 ft.
Magnolia 8 Gill estate . . . . . NW NE NW 26-3s-3w
Pumped 55 bbl. oil and 10 bbl. water, 10-qt. shot, Benoist 1,263 ft.

Wayne County

Chevigny 1 K. Cook . . . . . S½ SW NE 25-2n-6e
Dry. Ste. Genevieve 3,124 ft., T.D. 3,277 ft.
Thompson Drilling 4 Vaughn . . . NE NE NW 35-2s-8e
Pumped 95 bbl. oil, 5,000 gal. acid, McClosky 3,381-88 and 3,401-11 ft., T.D. 3,434 ft.
Pure 2 E. R. Hosselton A . . . . . W½ SE SE 29-2n-8e
Flowed 284 bbl., 5,000 gal. acid, McClosky, T.D. 3,090 ft.
Pure 3 C. O. Schofield . . . . . W½ NW SW 33-2n-8e
Flowed 589 bbl., 5,000 gal. acid, McClosky 3,015-22 ft., T.D. 3,090 ft.
D. W. Humphries 2 Waggoner . . . . SE SW SW 27-1s-7e
Dry. T.D. 3,337 ft.

White County

New Penn Dev. Co., 3 C. R. Whitton . . . . . SW NW SW 28-3s-9e
Pumped 168 bbl., 5,000 gal. acid, McClosky 2,850-59 ft.
D. & H. Drilling Co. 3 F. M. Horn SW SW NE 9-4s-14w
Pumped 41 bbl. oil and 28 bbl. water, Benoist 2,702 ft., perf. casing 2,210-19 ft. (Tar Springs), T.D. 2,723 ft.
Fortner et al 1-A Colvin . . . . . NE NE NW 9-4s-14w
Dry. 99 ft.
Superior 4 Fitton . . . . . NE SE NE 27-4s-14w
Flowed 157 bbl., McClosky 2,897-2,904 ft., T.D. 2,916 ft.
Buell & Herndon 1 J. Bond . . . . . SE SE NE 8-4s-14w

(Continued on Page 97)

By
NEIL WILLIAMS

Deep Sand Discovery in Iowa Reverses Declining Field

NEW ORLEANS, La., Aug. 26.—A revival of drilling activity in the Iowa field, Calcasieu Parish, coastal Louisiana, is anticipated following the recompletion of Magnolia Petroleum 9 Wait, which opened prolific production from a deeper sand section in the Frio formation. Originally completed in 1934 from sand at 6,866-82 ft., the total depth, the well was deepened to a total depth of 8,237 ft., and production was obtained by perforating casing at 8,230-36 ft. On a 24-hour potential test flowing through a ¼-in. choke, the well gaged 653 bbl. of 36-gravity oil. Casing pressure was 1,700 lb.

This field was opened in 1931 by the old Vacuum Oil Co., and production heretofore has been from several sand sections in the Miocene and Oligocene horizons at intervals from 4,400 to 7,000 ft. As of August 11, there were 37 producing wells in the field having a daily average production of approximately 8,500 bbl. No. 9 Wait is situated in the southeast quarter of 12-9s-7w, a slight distance to the northwest of the center of the field which is controlled largely by Magnolia, Shell and Barnsdall. Since the field has produced more than 40,000,000 bbl. of oil and is generally considered as being on the decline, the opening of the deeper sand is highly significant and will no doubt result in many of the wells throughout the field being deepened to the new pay. Magnolia is moving the rig from the discovery well to No. 4 Wait, and will deepen the hole from its present depth of 6,916 ft. The well is a west offset to Shell Oil Co., Inc. 4 Fontenot.

In the Neale field, Beauregard Parish, Atlantic Refining Co. was preparing to test No. 1 Kay unit, which, if successfully completed, will mark up a slight north extension to the field. Reported last week as a probable dry hole after drilling below the discovery pay to a total depth of 8,405 ft., 5½-in. casing was cemented on bottom following an electrical survey. The Wilcox formation was topped at 8,355 ft., and the sand section was encountered at 8,376 ft., about 15 ft. lower than the discovery well.

Stanolind Oil & Gas Co. opened production from a deeper horizon in the West Hackberry field, Cameron Parish, with the completion of No. 22-B School Board. Drilled to a total depth in a sidetracked hole at 9,866 ft., 7-in. casing was cemented at 9,430 ft., and the well was completed through perforated casing at 9,816-28 ft. On an 18-hour gage, flowing through a ⅞-in. choke, the well gaged 423 bbl. Tubing pressure was 1,250 lb. and casing pressure 1,350 lb.

The Paradis field, St. Charles Parish, was extended several hundred feet north as Texas 5 Paradis flowed at the rate of 1,014 bbl. per day on a 36-hour drillstem test through perforated casing at 10,380-10,400 ft. The test was made through a ¼-in. choke. Total depth is 11,190 ft., with 7-in. casing cemented at 11,175 ft. Tubing is being run for completion.

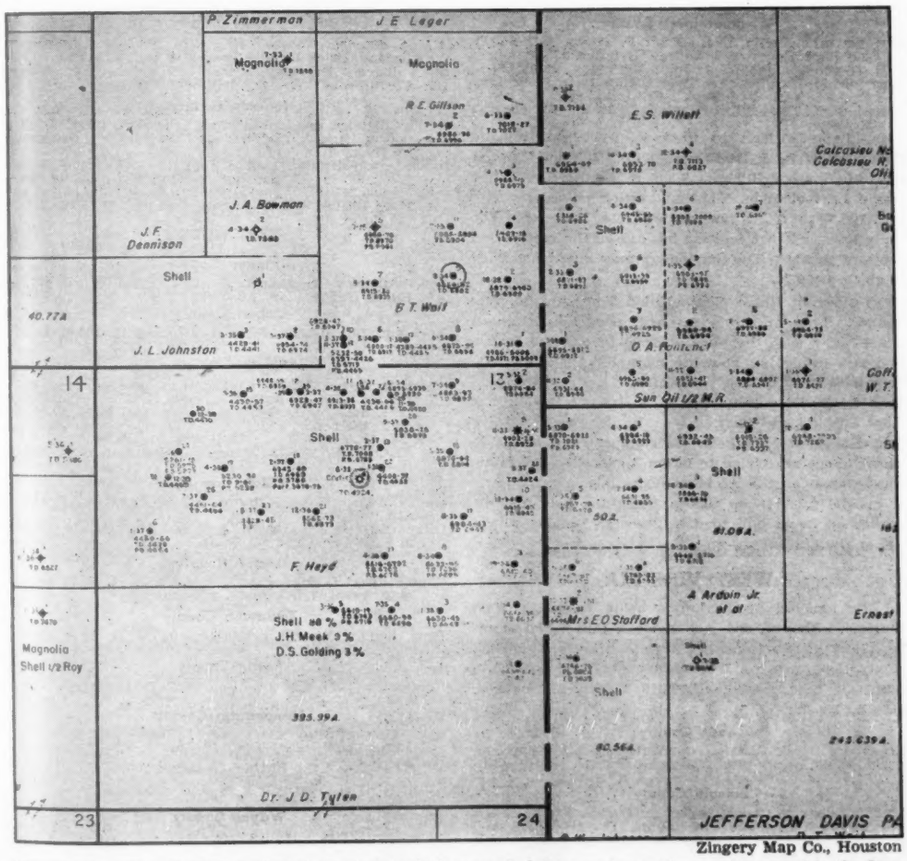
South Crowley Prospect

Humble 1 Leger, located on the South Crowley prospect, Acadia Parish, was attracting attention as it cored ahead in sand with a gas odor at 7,420 ft. Top of the broken sand section was logged at 7,266 ft., and several cores at intervals from 7,350-7,420 ft. carried an odor of oil and gas. The well is located in 22-10s-1e, just east of the same company's No. 1 Boyd Finch, a dry hole which flowed gas and distillate for several weeks before it was abandoned due to salt-water intrusion.

On the South China prospect, Jefferson Davis Parish, Union Sulphur 1-A Calcasieu National Bank is preparing to make a drill-stem test of open hole below the casing seat at 9,487-9,529 ft., the total depth. Testing of this well has been delayed due to the fact that the company has been unable to get an electrical log to the bottom of the hole. Should the drill-stem test fail, the well is expected to be tested through perforated casing at 8,555-62 ft., or 9,278-9,305 ft., where an electrical survey and sidewall cores showed favorable indications.

Plymouth Oil Co. is running tubing for final completion in No. 1 LeBlanc, the second well in the Bayou Pigeon field, Iberia Parish. Casing was perforated at 8,054-71 ft., and no drill-stem test was attempted. The well checked from 2 to 3 ft. higher on all important geological tops, and is being tested in the same sand section as the discovery well which is credited with having logged three separate sand sections.

Superior Oil Co. completed the fourteenth producer for the Grand Lake field, Cameron Parish, as No. 15 State flowed 263 bbl. per day through a 10/64-in. choke from perforated casing at 8,388-98 ft. The rig is being moved to the Calcasieu Lake dome, Calcasieu Parish, where it will be used in deepening No. 3 State from its present depth of 11,435 ft. to a projected depth of 13,000 ft.



Zingery Map Co., Houston

Magnolia Petroleum 9 Wait (indicated by circle) which opened prolific production from a deep sand in the Iowa field, Calcasieu and Jefferson Davis parishes

LOUISIANA GULF COAST COMPLETIONS

Avoyelles Parish

Eola field: S. W. Richardson 2 Sam Haas, perf. casing 8,548-78 ft., 212 bbl., 5/32-in. choke.

Calcasieu Parish

Vinton field: M. H. Hannah 1 J. S. Reed, 3,133 ft., dry.

Cameron Parish

West Hackberry field: Stanolind 22-B School Board, perf. casing 9,816-28 ft., 423 bbl., 18 hr., ⅞-in. choke.

Evangeline Parish

Ville Platte field: J. K. Hughes 1 Pitre, perf. casing 10,005-15 ft., 90 bbl. distillate, ⅛-in. choke.

Iberia Parish

New Iberia field: William Helis 2-H Sabatier, 1,510 ft., dry.

Jefferson Parish

Barataria field: Carter, Perrin & Brian 2 Ruttley-Wiseman, perf. casing 8,200-12 ft., 284 bbl., 5/32-in. choke.

Carter, Perrin & Brian 1 Westfeldt-Penniman, perf. casing 8,200-08 ft., 243 bbl., 5/32-in. choke.

Jefferson Davis Parish

Woodlawn field: Union Sulphur 1 Miller, perf. casing 9,593-94 ft., 120 bbl. distillate, 28/64-in. choke.

La Fourche Parish

Golden Meadows field: Gulf 1 Allen Land Co., 11,954 ft., dry.

Berkshire 1 Authment, perf. casing 10,366-72 ft., 384 bbl., 15/64-in. choke.

Temple Hargrove 2 School Board, perf. casing 5,150-70 ft., 108 bbl., 11/64-in. choke.

O'Dwyer Oils 5 La Fourche Realty Co., perf. casing 5,436-46 ft., 240 bbl., 10/64-in. choke.

Texas 15 Falgout Holding, sand 7,900-40 ft., 259 bbl., 5/32-in. choke.

Texas 17 Falgout Holding, sand 5,160-75 ft., 249 bbl., 5/32-in. choke.

Plaquemines Parish

Lake Salvador field: California Co. 1 Delta Minerals unit No. 5, perf. casing 7,485-90 ft., 487 bbl., ⅞-in. choke.

Rapides Parish

Cheneyville field: Amerada 12 Weil Co., Inc., 5,747 ft., 200 bbl., 17 hr., ⅞-in. choke.

St. Mary Parish

Charenton field: St. Mary Oil 7 Robichaux, sand 1,137-51 ft., 165 bbl., pumping.

LOUISIANA GULF COAST WILDCATS

Ascension Parish

Humble 4-B Community, Darrow dome, T.D. 9,095 ft., waiting on cement.

Calcasieu Parish

W. T. Burton 1 Mayo Realty, South Lake Charles pros-

(Continued on Page 97)

Clinton Gas Sand Found in Kanawha County Field

By STAFF CORRESPONDENT

PITTSBURGH, Pa., Aug. 26.—In Kanawha County, West Virginia, Columbian Carbon Co., in cleaning No. 4 Campbells Creek Coal Co., in Louden district, broke through the bridge caused by shot, and one hour after, it tested 2,199,000 cu. ft. of gas from the Clinton sand. With the gas blowing open while cleaning out, 4 days after breaking through, the volume was 1,034,000 cu. ft. Here the elevation of the derrick floor was 983.9 ft., Oriskany 4,820½-4,848 ft., Clinton 6,204-6,272 ft., T.D. 6,347 ft. This leads to the interesting possibility that, after exhaustion in the Oriskany gas field in that county, there may be an additional gas reserve underlying in the Clinton which on an average would not require more than 1,400 ft. of drilling to complete. This is the largest Clinton sand gas well in the state, the only other being Owens, Libby-Owens 13 Bull Creek Coal Co. in Peytona district, which produces from both the Clinton sand and Newburg.

During the past week in the lower eastern fields, 30 operations were reported, of which 4 were dry, 20 gas wells, and 6 oil producers with a daily initial of 100 bbl.

SOUTHEAST OHIO

In Mahoning County the test of Magnolia Petroleum Corp. on the F. M. Fields farm, Section 19, Berlin Township, is drilling at 4,790 ft. and should reach the Clinton sand within the next 2 days.

In Geauga County the test of the East Ohio Gas Co. (Carter) on the George W. Cryle farm, Lot 1, Tract 1, Chardon Township, shut down to run 6⅝-in. casing at 3,385 ft., which will shut off the Newburg water. This company is also drilling two additional deep tests as the result of the extensive geophysical survey. In Lake County, Concord Township, Lot 15, the test on the F. L. Mather farm is drilling at 400 ft. In Kirkland Township of this county and Lot 90, the test on the Andrew farm is drilling in the Big lime at 1,840 ft.

In Belmont County, the Oriskany test of the Natural Gas Co. of West Virginia on the E. A. Mobley farm, Section 19, Smith Township, has spudded in and is drilling at 200 ft.

Licking County

Hanover Township: Edward H. Everett Co. 1 Emma Romine, Lot 3, 35 bbl., Clinton sand, 2,928 ft.
Newton Township: Guy L. Shrider et al 3 Ed McKinney, Sec. 25, 3 bbl., Berea, 521 ft.
Madison Township: Rex Roth Oil, 4 S. E. and Annie Walthole, Sec. 23, 8 bbl., Berea, 728 ft.

SOUTHWEST PENNSYLVANIA

On Chestnut Ridge in South Union Township, Fayette County, Peoples Natural Gas 2 Piedmont Coal Co. topped the Tully lime at 5,720 ft. The surface elevation of this test is 2,224 ft., placing the Tully 3,496 ft. subsea or high on structure.

Clarion County

Porter Township: T. W. Phillips 3 Mrs. Mary Brown, 51,000 cu. ft. gas, Speechley, T.D. 2,871 ft.
Monroe Township: Owens Illinois Glass 1 J. W. Altes. Dry. Speechley, T.D. 2,470 ft.

Greene County

Wayne Township: I. S. White et al 1 Norman Strosnider, 880,000 cu. ft. gas, Fourth sand 3,080-3,110 ft., Fifth sand 3,130-87 ft., gas 3,087-3,110 ft., T.D. 3,273 ft.
Monongahela Township: Wahler-Powers Oil & Gas Co. 1 Silas Provins, 936,000 cu. ft. gas, Big Injun 1,190 ft., gas 1,228 ft., T.D. 1,234 ft.

Indiana County

Washington Township: T. W. Phillips 1 John Liszenski, 600,000 cu. ft. gas, 1,630-34 ft., T.D. 1,705 ft.
Armstrong Township: J. C. Rinn 2 Perdon heirs, gas, no test, Shot 3,502-14 ft., T.D. 3,690 ft.

DRILLING

Armstrong County

Burrell Township: Equitable 1 James Deshong, 3,027 ft.
Cowanshannock Township: Peoples 1 Michael Miketa, rigging.
Plum Creek Township: William McCollins 2 Add Reefer, S.D., water.
Peoples 1 John Shetler, S.D. 3,605 ft., testing.
Shelocta 1 Amos Boyer, building rig.
Valley Township: Local company 2 W. L. Piert, S.D. 650 ft.
Wayne Township: Peoples 1 W. G. Beck, 2,575 ft.
Samuel Bowers et al 1 William Rupp, 525 ft.

Clarion County

Clarion Township: R. M. Burnham Co. 1 Enos Hill, 2,576 ft., 35,000 cu. ft. gas.
Piney Township: T. W. Phillips 6 Frank Shreffler 650 ft.
Porter Township: T. W. Phillips 1 Brown School, location.
Red Bank Township: John Lasher et al 1 Cora Truitt, 1,460 ft.
O. H. Culbertson 2 Ed Bowersox, spudding.

Fayette County

German Township: J. H. Carnell 1 Marion Kurzankuski, 1,938 ft.
Greensboro Gas Co. 1 C. L. Springer, 1,890 ft.
Nicholson Township: Duquesne 1 Ivan Mallory, 193 ft.

Greene County

Gilmore and Wayne Townships: H. D. Freeland et al 1 R. R. Headley, 1,950 ft.
Monongahela Township: John Ingraham et al 1 Bliss Donham, 2,115 ft., Big Injun sand 1,607-1,845 ft.
D. E. Mayne et al L. L. Crawford, 1,190 ft.
Morris Township: Romney Rutan et al 1 Alfred Rutan, 1,477 ft.
Richhill Township: Carnegie 8 J. K. Loughridge, 2,751 ft.
Thirty-foot sand 2,560-75 ft.
Wasmuth & Callahan 1 Mary Goodwin, 1,564 ft.

Washington County

Amwell Township: Carnegie 2 W. C. McCollum, 908 ft., Murphy sand 835-90 ft.
Carnegie 1 Charles B. Frazee, 2,334 ft., Big Injun 1,925-2,090 ft.
Orrill et al 1 Membs Lantz, 1,766 ft., Pittsburg coal 513 ft.
H. V. Sprowls et al 1 Clarence Vankirk, 2,548 ft.
South Franklin Township: A. V. Lewis et al 3 B. A. Bonham, 450 ft.
A. V. Lewis et al 1 Frank Gilbert, location.

Indiana County

South Mahoning: John Wray & Co. 2 James Lukehart, 1,375 ft.
West Mahoning: T. W. Phillips 1 Jesse Williams, 1,146 ft.

Westmoreland County

Allegheny Township: Peoples 2 J. F. Young, S.D. 950 ft.
Hyde Park Foundry 2 Andrew Grinder, 275 ft.
Bell Township: Peoples 1 John McCreary, spudding.
Derry Township: Latrobe Steel Spring 1 Keystone Coal Co., 1,840 ft., Red Rock 1,812 ft.
Washington Township: Peoples 2 A. J. Idings, gas, testing.

On Laurel Ridge in Stewart Township, Fayette County, New Penn Development Co., William E. Snee, and others are drilling at 7,890 ft. in the test on the Gregg L. Neel farm. The lime section passed through at 7,790-7,815 ft. is now believed to have been the Tully lime and that faulting has caused the unexpected depth of this test. The Onondaga would then be reached at about 8,400 ft.

On Chestnut Ridge, South Union Township, Fayette County, these operators are still deepening Summit Hotel No. 2 with the tools at 6,890 ft. and the formation still sandy but showing more lime. The gas volume is still about the same after 74 ft. of Oriskany. Here Peoples Natural Gas Co. is drilling No. 3 Piedmont Coal Co. at 350 ft.

In Maryland New Penn Development Co. and William E. Snee are trying to bridge the test on the Humberson farm on the Accident dome in Garrett County at around 6,000 ft. so that a straighter hole may be carried on down but, to date, they are unable to get out of the old hole.

WEST VIRGINIA

Little new oil production is being found in West Virginia, although one well made a fair initial showing this week. In Calhoun County, O. R. Hardman and others completed No. 2 C. B. Groves in Lee district in the Injun sand, total depth 2,279 ft., which produced, initially, 50 bbl.

Lewis County

Freemans Creek district: Carnegie 1 D. D. Chapman, ¼ bbl., Injun sand, gas well drilled deeper, T.D. 1,884 ft.

Lincoln County

Sheridan district: One Mile Gas Co. 2 Sweetland Land & Mining Co., 3 bbl., 50,100 cu. ft. gas, Salt sand 603-958 ft., Big lime 1,135 ft., acidized, T.D. 1,330 ft.

Ritchie County

Union district: Carnegie 1 Morgan Watson, 3 bbl., gas well, drilled deeper, Big Injun sand, 2,104 ft.

GAS WELLS

Boone County

Sherman district: Pure 44 Lafollette, Pritchard & Robson, 681,120 cu. ft. gas, Berea, 3,265 ft.
Rich Fork 5 Croft Land Co., drilled deeper, 84,000 cu. ft. gas, started deepening 2,366 ft., Brown shale 3,460-3,860 ft., T.D. 3,950 ft.

Braxton County

Birch district: Pittsburgh & West Virginia Gas 7760 Lydia Hill et al, 83,080 cu. ft. gas, Injun sand 2,020 ft.

Cabell County

Guyandotte district: Russell Petrie et al 1 B. J. Pinkerman, 1,031,000 cu. ft. gas, Big lime 955-1,090 ft., Big Injun 1,300-44 ft., Berea 1,755-80 ft., Brown shale 2,125-2,450 and 2,715-78 ft., Corniferous lime 2,803 ft., T.D. 2,803 ft.

Gilmer County

DeKalb district: McCall Drilling Co. 1 P. J. Fling, 752,000 cu. ft. gas, Maxton sand 1,821-43 ft., gas 1,833-43 ft., T.D. 1,846 ft.
Carnegie 1 Coleman L. Peters, 268,000 cu. ft. gas, first Salt 1,090-1,195 ft., second Salt 1,430 ft., gas 1,490-1,508 ft., T.D. 1,508 ft.
W. H. Mossor 1 John A. Riddle, 700,000 cu. ft. gas, Injun sand 2,077 ft.

Monongalia County

Cass district: J. I. Eddy & Co. 1 George A. Morris. Dry. Fourth sand, T.D. 3,090 ft.

Pleasants County

Grant district: Columbian Carbon 2 Giles Hammat heirs. Dry. Drilled as an offset to No. 1, which is a fair oil producer in the shales at about the Speechley or Gordon horizon; T.D. 2,810 ft.

Putnam County

Curry district: Randolph Gas 1 Eva Rupe, 500,000 cu. ft. gas, Salt sand 1,252-1,605 ft., Big lime 1,608 ft., gas 1,698-1,708 ft., T.D. 1,708 ft.

Roane County

Harper district: Bonnett Oil & Gas 1 J. C. Jones et al, 1,127,000 cu. ft. gas, Salt sand 1,600 ft., gas 1,605-48 ft., T.D. 1,648 ft.

Wayne County

Union district: Hale, Lowe & Francis 1 Harry Ferguson. Dry. Big lime 1,109-1,278 ft., Big Injun 1,340-1,400 ft., Berea 1,956-72 ft., Brown shale 2,695-2,808 ft., Brown shale 3,010-85 ft., Corniferous lime 3,085 ft., show gas 2,550 ft. and 2,583 ft., shot, no results.

ORISKANY GAS FIELD

Poca district: Godfrey L. Cabot 10 Putnam Co., 5,000,000 cu. ft. gas, Corniferous 4,862 ft., Oriskany 4,962 ft., T.D. 5,003 ft.
United Carbon 831 Mary E. Carney et al, 5,515,000 cu. ft. gas before shot, Oriskany 4,975-5,014 ft., rock pressure 710 lb., T.D. 5,020 ft.
Poca Fork 1 Anna M. Jones 901,000 cu. ft. gas, Oriskany 5,211 ft., may shoot, T.D. 5,248 ft.
Final test West Virginia Gas Corp. 041 Samuel H. Fields, 10,067,000 cu. ft. gas, T.D. 5,076 ft.
Final test United Carbon 830 O. B. Boggess, 5,282,000 cu. ft. gas, T.D. 5,042 ft.

DRILLING

Union district: Godfrey L. Cabot 2 L. M. Lafollette, testing 190,000 cu. ft. gas, Big lime 1,638 ft.
Poca district: Everett Starcher 1 G. J. Litton et al, top Corniferous 5,030 ft., drilling 5,133 ft.

Jackson County

Ripley district: Joe Rubin et al 1 Clarence Pfost, 8,829,000 cu. ft. gas, Corniferous lime 5,035 ft., Oriskany 5,137 ft., T.D. 5,179 ft.
Washington district: United Fuel Gas 4879 Job E. Ray, 2,363,000 cu. ft. gas before shot, Corniferous lime 5,099-5,219 ft., Oriskany 5,219-63 ft., gas 5,241-48 ft.; 4,726,000 cu. ft. gas after shot, T.D. 5,263 ft.

NEW WORK

Braxton County

Birch district: Pittsburgh & West Virginia Gas 7764 Ed L. Boggs, elev. 1,048 ft.

Cabell County

Barboursville district: Merritts Creek 1 Pineview Land Co., elev. 563 ft.

Calhoun County

Sherman district: Hope 8522 Robert Munney, elev. 837 ft.; No. 8520 C. A. Jarvis, elev., 1,137 ft.; No. 8521 H. L. Robinson, elev. 836 ft., No. 8519 M. D. Fowler, elev. 1,016 ft.
W. V. Knight 1 J. B. Ward, elev. 1,005 ft.
Lee district: Hope 8523 Hunter M. Bennett, elev. 1,132 ft.

Clay County

Henry district: Joe Rubin 1 Adena Corp et al, elev. 813.2 ft.
Otter district: Pittsburgh & West Virginia Gas 7762 J. F. Wilson, elev. 1,103 ft.

Gilmer County

Center district: Carnegie 1, 2, and 3 A. A. Cain heirs, elev. 1,046, 1,195, and 1,110 ft.

Kanawha County

Poca district: West Virginia Gas 045 J. C. Legg heirs, elev. 835.78 ft.

Lewis County

Freemans Creek district: Hope 8525 A. L. Griggs, elev. 1,011 ft.

Monongalia County

Clay district: Roy H. Clovis 1 Ralph Johnson and Maude Hall, elev. 942.9 ft.

Ritchie County

Grant district: McBurney et al 1 W. F. Coplin, elev. 842 ft.

Wayne County

Lincoln district: Huntington-Oklahoma Gas 7 Floyd Brewert, elev. 890 ft.

Wetzel County

Magnolia district: Samuel Morris 1 Beatrice Yeater, elev. 641 ft.

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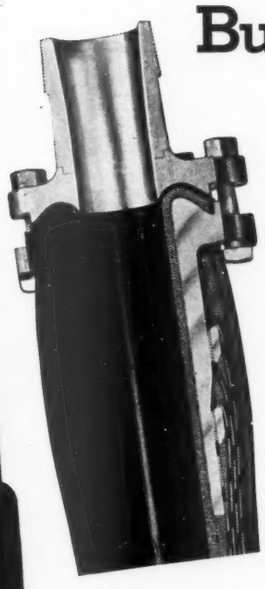

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By
L. P. STOCKMAN

Inglewood Deep Zone Shows Good Production on Test

LOS ANGELES, Calif., Aug. 26.—The reduction in the allowable crude-oil production of California from the 587,000 bbl. that prevailed during August to 571,000 bbl. per day that has been set for September should result in a substantial reduction in state production but actual production will be reduced to this established allotment. Crude-oil production has averaged about 30,000 bbl. per day in excess of the established allowable for several months for several reasons. The objective can never be reached under present conditions as long as Kettleman North Dome field continues to overproduce. During August Kettleman North Dome field produced a total of 1,448,645 bbl. of crude oil for an average of 46,730 bbl. daily. This field was given a permissible allowable by the Conservation Committee of 33,232 bbl. per day during August so that the field overproduced 13,498 bbl. daily. This represents about 45 per cent of the total overage. Elk Hills, due to the inability of Richfield Oil Corp. to secure an extension of leases in this field which forces it to overproduce, will remain in the offending column for the rest of 1940. Elk Hills field averaged 12,289 bbl. of crude-oil production per day during August against an allowable of 6,803 bbl. daily. It is quite obvious that these and other fields prevent actual production from reaching the objective. On this basis actual crude-oil production during September should approximate 600,000 bbl. per day if no further change is made in the curtailment program or degree of compliance. With an allowable of 571,000 bbl. daily set for the month of September developments indicate a probable allowable of 560,000 bbl. per day or less during the forthcoming winter period when demand is at its lowest point. If allowable daily crude-oil production is reduced to this point it will mean that the maximum allotment of the largest wells will be substantially below 150 bbl. per day. When the present system of curtailment was started on the so-called uniform method of allotment the top well production was set at 250 bbl. Since that time almost 100 bbl. per day has been knocked off the top allotment and there are still 3 months to go before the end of the year. It had been hoped that the top allotment would not be below 150 bbl. daily during December but if the present rate is followed it will probably be between 125 and 150 bbl. If, for some reason, the State Department should begin denying licenses for the export of crude oil the present system will have to be changed or modified. Current daily production of leading California fields for the past week follows:

	Bbl.
Wilmington	85,350
Kettleman North Dome	47,250
Long Beach	43,500
Midway-Sunset	41,250
Ventura Avenue	34,200
Coalinga	30,400
Santa Fe Springs	25,800
Huntington Beach	25,500
Montebello	17,550
Santa Maria Valley	17,400

Probable New Deep Zone

Of outstanding importance in California at present is the probable discovery of a new deep zone by R. R. Bush Oil Co. on the south flank of the Inglewood field in Los Angeles Basin. The deep-zone discovery well is No. 1 Sentous in 17-2s-14w, in the northeast corner of a triangular-shaped parcel in which the apex extends toward the axis of the structure. All indications point to the probable completion of a good flowing well from a depth of 8,439 ft. In addition to its possible completion as a commercial well, No. 1 Sentous has presented a problem that may not be solved for several months, namely the possibility that the basement may be located immediately below the present depth. This will, of course, remain conjectural but it is interesting to note that No. 1 Sentous cored a nodular shale at 8,280-8,335 ft. If this nodular shale is the equivalent of the nodular shale found in the Playa Del Rey field and the rest of the column is uniform the schist basement can be expected soon as the nodular at Playa Del Rey and El Segundo immediately overlies the schist basement. It is quite possible, however, that this nodular shale is the equivalent of the basal Modelo, upper Miocene, found in the Santa Monica Mountains nearby or it may be an abnormal condition in which event there may be several hundred feet of sedimentary formation before reaching basement. This is especially interesting because No. 1 Sentous cored igneous rock at 8,370 ft. This may be either a volcanic flow material or a reworked volcanic. This is the first well in Los Angeles Basin in close proximity to an existing oil field that has cored igneous rock. The formation in the bottom of the hole at 8,439 ft. is a hard gray sandstone, another peculiarity.

No. 1 Sentous of R. R. Bush Oil Co. is at present being given a water-shutoff test and if the Mining Bureau passes the well for production it should be tanking oil within another few days. On a formation test, made before the water string had been set, at 8,320-8,439 ft. with the tester open 1 hour and 24 minutes the well produced oil enough to fill 35 stands of drill pipe with clean 31.2-gravity oil. A 1,000-ft. water cushion was used and the first gas reached the surface in 24 minutes. This well has enough formation at present to result in a good completion and since the shoe of the 7-in. water string was cemented below the top depth of the formation tested it should produce clean oil. If No. 1 Sentous results in commercial production, and all indications point in that direction, it will necessitate the drilling of several offsets principally by Standard Oil Co. The Inglewood field was discovered by Standard Oil Co. in September 1924. Production to date has come from the Pliocene and from one zone in the upper part of the Miocene.

Newhall District

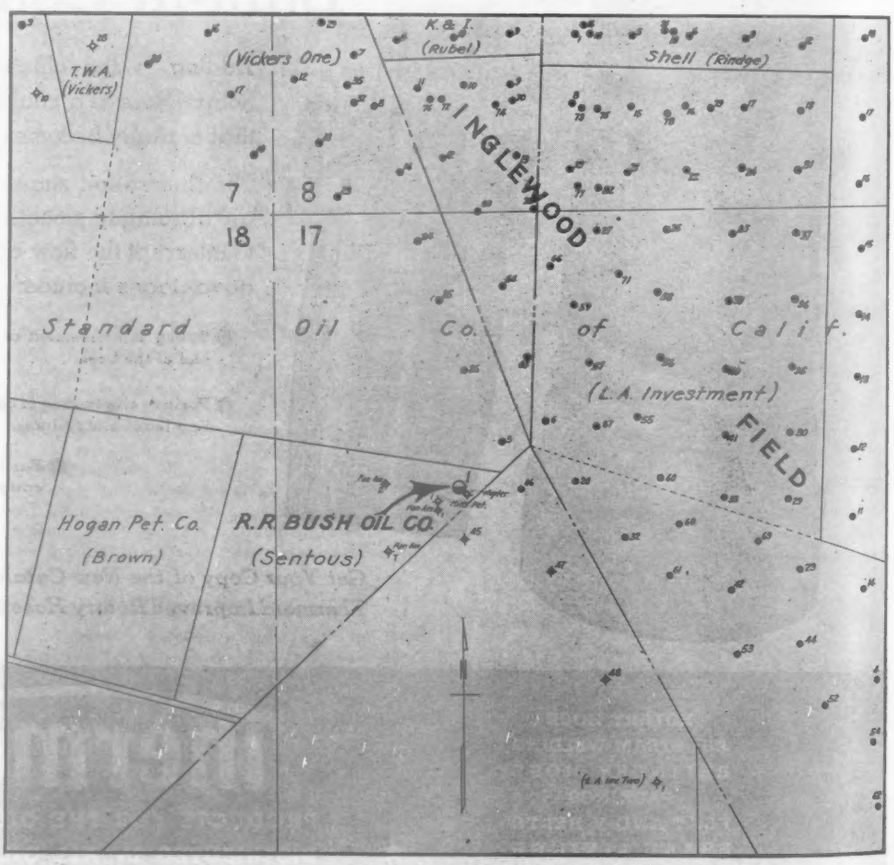
R. E. Havenstrite is believed to have picked up the third zone in No. 1 Lincoln, a wildcat in the Newhall district of Los Angeles County, and at present depth of 6,745 ft. is rotating ahead in a light tan oil sand that shows fair to good cuts. For several hundred feet this wildcat appeared to be running substantially higher than similar zones in the San Francisco field of Barnsdall but now the well appears to be running deeper. No date or depth has been set for the making of a production test and it is believed that some additional hole will be taken in the hope of finding a better saturated sand. At its present depth No. 1 Lincoln appears good for a pumper but the operator hopes to secure a natural flowing well if possible. The well appears to have cooled off somewhat because if it is in the third San Francisco zone it should find a better looking oil sand. It may be another 2 weeks before the status of this wildcat will be determined.

LOS ANGELES BASIN COMPLETIONS

Dominguez Field

Shell 108 Reyes 33-3s-13w
Pumped 238 bbl., 29.1-gravity, 34 per cent cut, water 1,756 grains salt per gal., T.D. 4,335 ft., SE end of field in Los Angeles County.

Union 14 Carson 33-3s-13w
Flowed 347 bbl., 30.9-gravity, 6.4 per cent cut, 250,000 cu. ft. gas, 37/64-in. bean. Pressures: 240/350 lb., T.D. 7,910 ft., producing from eighth Callender zone, Los Angeles County.



R. R. Bush Oil Co. has discovered a new deep zone on the south flank of the Inglewood field of Los Angeles Basin in the Miocene at 8,439 ft. This will force Standard Oil Co. to undertake offset drilling and this may lead to similar work by Shell, K. & J. Corp. and others

Twenty-two Hortonspheroids equipped with S & J Tank Fittings

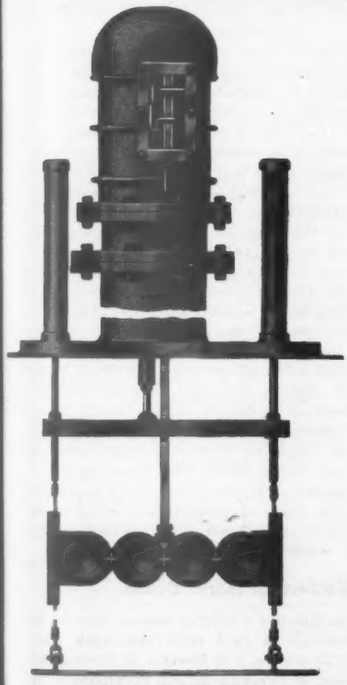


FIGURE ST-1064
Compensating Type
Automatic Tank Gauge

Above is the S. & J. Automatic Tank Gauge, designed specifically for application to Hortonspheroids. It is actuated by a float, and so designed as to compensate for any slight movement of the tank roof.

THE picture above shows a part of the large capacity Hortonspheroids used at one of the newer refineries of a major oil company, which has not left one stone unturned in equipping their refinery for the greatest efficiency, economy and safety in handling petroleum products.

Of the 22 spheroidal tanks, 7 are of 80,000 barrel capacity, and 15 are 100,000 barrel units. Two operate at 5 pounds pressure and 20 operate at 2½ pounds pressure per square inch.

All of these Hortonspheroids are equipped with the three S. & J. specialties here illustrated and described. We manufacture a complete line of fittings for all types of storage tanks, and shall be glad to have your inquiries when you are contemplating expansion of your storage facilities.

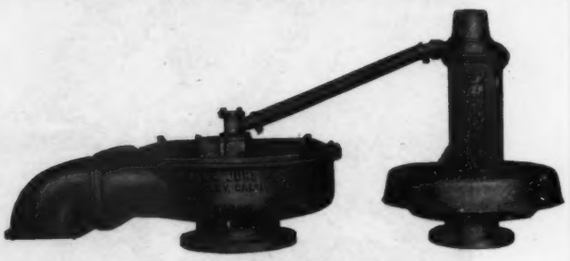


FIGURE ST-2300
Pressure Regulator

The S. & J. Pressure Regulator shown above meets the working requirements of tanks operating between 2 and 10 pounds pressure. It consists of the valve proper and the control unit and incorporates many safety features found in no other pressure regulator.

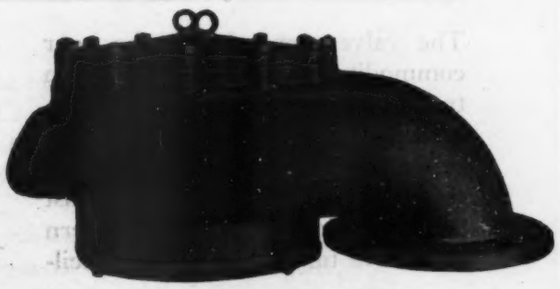


FIGURE ST-1926
Vacuum Breather Valve

Designed to relieve the vacuum conditions incident to the operation of pressure storage tanks and to withstand the internal pressure of the stored product when not operating under vacuum. Made in 6, 8 and 10 inch sizes.

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New York

225 W. 11th Street
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601 Fannin Street
Houston

310 South Michigan Avenue
Chicago

SHAND & JURS

Huntington Beach

Southwest Expl. 30 State 10-6s-11w
Pumped 1,606 bbl., 25.1-gravity. Present production 260 bbl., T.D. 4,500 ft. Bottomed beneath Pacific Ocean by directional drilling from upland location. Orange County.

Rosecrans

Chicago 1 Founders 20-3s-11w
Pumped 75 bbl., 30.1-gravity, 25 per cent cut, T.D. 7,693 ft., P.B. 7,335 ft., completed in O'Dea zone, Los Angeles County.

Wilmington

Barnhart-Morrow 4 Wilmington Comm. 32-4s-13w
Flowed 176 bbl., 16.4-gravity, 1.4 per cent cut, 18/64-in. bean, T.D. 3,725 ft., completed in Ranger zone, Los Angeles County.

Hancock 19-A 3-5s-13w
Flowed 735 bbl., 20.6-gravity, 3 per cent cut, 40/64-in. bean. Pressures: 200/250 lb., T.D. 3,342 ft., completed in Ranger zone, Los Angeles County.

Wilbur 4 Krieger 32-4s-13w
Pumped 289 bbl., 16.8-gravity, 3 per cent cut, T.D. 3,712 ft., completed in Ranger zone, Los Angeles County.

LOS ANGELES BASIN WILDCATS

Aliso Canyon District

Continental 2 Howell 35-3n-16w
T.D. 5,130 ft., drilling, spot coring. Expect Eocene around 6,000 ft. No. 1 Howell, first wildcat in 2-2n-16w, was abandoned at 4,260 ft. in Eocene. Top of Eocene 4,010 ft., Miocene was absent. Los Angeles County.

Dominguez District

D. D. Angle 1 Dom. Estates 31-3s-13w
T.D. 360 ft., drilling. Located at Main and Victoria Street, midway between Wood-Mellon outpost and present productive limits of Dominguez field. Los Angeles County.

Wood-Mellon 1 Wood 31-3s-13w
T.D. 7,795 ft., P.B. to 2,400 ft. Redrilling at 3,380 ft. Whipstocked and redrilling to test showing at 3,443-4,170 ft., where some oil sand was recovered in sidewall samples. May retest sixth Callender zone, which showed about 14 ft. of oil sand at 6,808-22 ft., but then graded into gray water sand. Seventh and eighth Callender zones were barren and gray. Located 1 mi. W of Dominguez field in Los Angeles County.

Inglewood District

R. R. Bush 1 Sentous 17-2s-14w
T.D. 8,439 ft., cemented water string 8,325 ft. Formation test 8,320-8,439 ft., open 1 hr. and 24 min. with 1,000-ft. water cushion, recovered 35 stands clean 31.2-gravity crude oil. Top of new Buck zone 8,337 ft., nodular shale at 8,280-8,335 ft., hard gray sandstone 8,439 ft. Los Angeles County.

Newhall District

Havenstrite 1 Lincoln 16-4n-17w
T.D. 6,745 ft., drilling sandy shale above third zone which is expected momentarily. Top lower Pico 5,242 ft., top Miocene 5,750 ft., top first zone 6,036 ft., top second zone 6,180 ft. This wildcat will bear watching as top of third zone expected within next 150 ft. Los Angeles County.

Newhall-Potrero 1 Ferguson 26-4n-17w
Drilling ahead at 6,748 ft. in hard shale. Correlating about 1,250 ft. lower structurally than San Francisco field which is in the general area. Los Angeles County.

Pico District

Cal-Pico 1 Pico 7-2s-11w
T.D. 5,098 ft. in shale and shells, gray water sand 4,864-78 ft., several minor showings below 2,500 ft., but no solid oil zone. Outlook problematical. Los Angeles County.

Security L. & W. 1 Security 9-3s-10w
T.D. 4,630 ft., drilling ahead in sandy shale. No showings of importance. Los Angeles County.

Rio Bravo

Superior Oil Co. has definitely defined the limits of production in the northwestern end of the Rio Bravo and has accordingly abandoned No. 1 Riggs in 21-28-25 as a duster at 12,324 ft. This well cored top of the Olcese around 10,600 ft. and found the Rio Bravo zone gray and barren after logging top of the horizon at 12,215 ft. and drilling through it. The well failed to find the equivalent of the Vedder or second member of the Rio Bravo due to development of a fishing job from which recovery was found impossible. Work on the Bohna lease in 20-28-25 and on the Devine lease in 21-28-25 north of No. 1 Riggs has been suspended.

It is interesting to note that there is less than 1 mile between the southern end of Rio Bravo and the northern end of the Greeley field. The northern limits of the Greeley field as far as the Vedder and Rio Bravo zones are concerned are being pushed out by each succeeding completion and thus it may later be found that the two fields join or are separated by a very thin break. Abandonment of No. 1 Riggs means that leases held by Superior Oil Co., General Petroleum Corp., Wilshire Oil Co., Barnsdall Oil Co., and George F. Getty, Inc., are unproductive and may never be drilled. If the Greeley field extends up to within close proximity of the Rio Bravo field, General Petroleum Corp., Superior Oil Co., Signal Oil & Gas Co., and Pacific Western Oil Co. may possible secure production.

In the Rio Bravo field, Superior Oil Co. has concluded drilling operations on No. 1 Mandell, in 27-28-25, and this potential producer should be tanking oil within the next day or so. Top of the Rio Bravo sand was cored at 11,157 ft., quite high structurally, and 7-in. water string was cemented at this same depth. General Petroleum Corp. has run into a fishing job in No. 5 Caldwell in 35-28-25 at 11,008 ft., but an early recovery is anticipated as top of the fish is at 91 ft. Union Oil Co. is finishing No. 2-34 Kern County Land in 34-28-25 and No. 67-34 Kern County Land in the same section and both should be on production within the next 10 days or 2 weeks. In the Greeley field which lies immediately southeast of the Rio Bravo field General Petroleum Corp. completed No. 1 Wallace on the north flank of the structure making 490 bbl. of oil and 450,000 cu. ft. of gas from a depth of 11,512 ft. This is the smallest well that General Petroleum Corp. has completed at Greeley since starting its extension work several months ago. Top of the Rio Bravo zone was logged at 11,320 ft. and the hole was finished with 275 ft. of 4¾-in. liner including 205 ft. of perforated landed at 11,509 ft. The small production indicates that the limits of production may not be far removed but up to the present there has been no evidence of edge water.

Kettleman North Dome

Union Oil Co. finished a typical Eocene well in the Kettleman North Dome field early this week when No. 9 King, in 29-21s-17e, was brought in flowing 360 bbl. of very clean 48.1-gravity oil and 14,000,000 cu. ft. of gas per day from a depth of 10,914 ft. This new well is located out in the Huffman section of the field at the extreme western end of the Kettleman structure. All eight previous wells on this 160-acre King lease were completed and are still producing from the Temblor. Superior Oil Co., holding the diagonal 160 acres in this same section, has two Eocene producers and Standard Oil Co. and Kenda both have several Eocene wells completed during the past year or so.

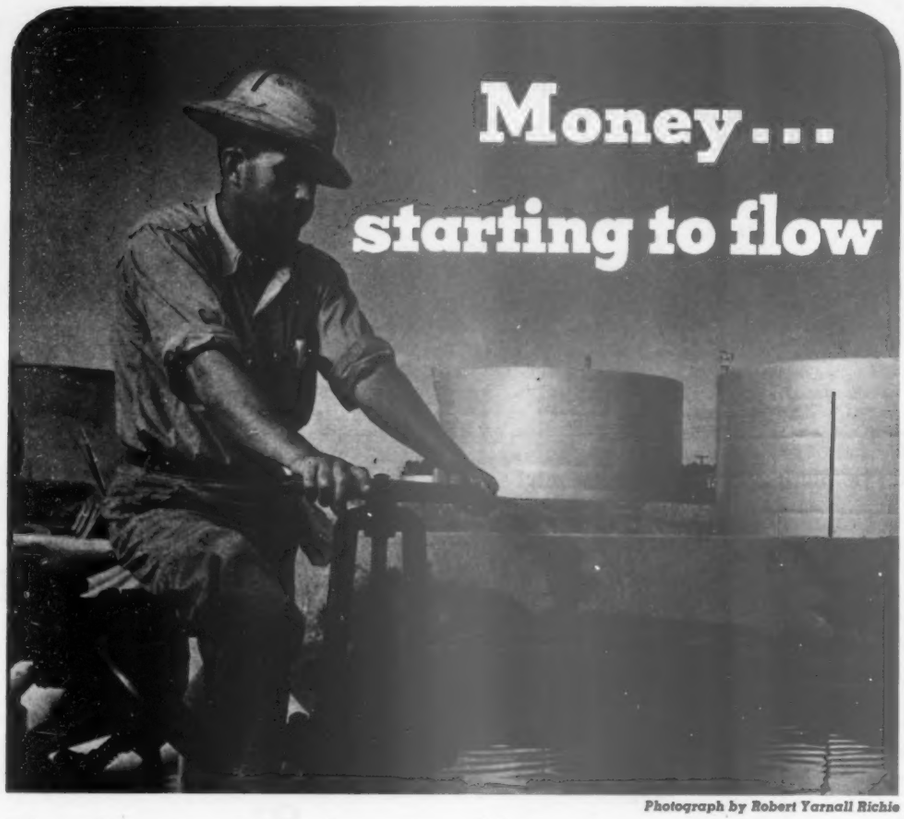
SAN JOAQUIN VALLEY COMPLETIONS

Edison Field

Wood-Callahan 1 Kranz 21-30s-29e
Pumped 128 bbl., 22.1-gravity. 7 per cent cut, T.D. 3,520 ft., Kern County.

Greeley Field

General Petroleum 1 Wallace 1-29s-25e
Flowed 490 bbl., 39.1-gravity, 450,000 cu. ft. gas, 12/64-in. bean. Pressures: 1,575/1,650 lb. T.D. 11,512 ft. Top Rio Bravo sand 11,320 ft. Kern County.



Photograph by Robert Yarnall Richie

The valve turns—it may be your commodity starting to flow from tanker to General American tank. And we never forget that liquid represents Money to you. So we watch it every step—guard against contamination—send it to modern protective tanks. We put our facilities at your command for speedy shipment at any hour. General American saves your commodity—and saves you money. All without a penny's investment on your part. Join the world leaders who profit from General American Terminal Service.

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A DIVISION OF GENERAL AMERICAN TRANSPORTATION CORPORATION

Kettleman North Dome Field

Union 9 King 29-21s-17e
Flowed 360 bbl., 48.1-gravity, 14,500,000 cu. ft. gas, 32/64-in. bean. Pressures: 650/2,950 lb. T.D. 10,914 ft. Completed in Avenal zone of Eocene age. Top McAdams sand 10,205 ft. 797 ft. combination 4 and 5-in. liner landed at 10,912 ft. and perf. at intervals 10,208-10,822 ft. Typical Eocene completion. Fresno County.

Southeast Coalinga

Lytle 88-18-F 18-20s-16e
Flowed 2,015-bbl. rate, 29.4-gravity, 1,194,000 cu. ft. gas. T.D. 7,921 ft. Elev. 720 ft. Top Kreyenhagen 6,430 ft., top glauconitic 7,599 ft., top grit zone 7,610 ft., top productive Gatchell 7,717 ft. Fresno County.

Standard 62-19-F 19-20s-16e
Flowed 3,496-bbl. rate, 27.7-gravity, 3.5 per cent cut, 2,624,000 cu. ft. gas. T.D. 7,837 ft. Elev. 702 ft. Top Kreyenhagen 6,332 ft., top glauconitic 7,496 ft., top productive Gatchell 7,517 ft. Fresno County.

Ten Section Field

Shell 2-30-A Kern County Land 30-30s-26e
Flowed 2,037 bbl., 34.8-gravity, 1,543,000 cu. ft. gas. Completed in productive Stevens zone. T.D. 8,200 ft. Elev. 327 ft. NW end of field in Kern County.

Tupman Field

Richfield 36-28-A Kern County Land 28-30s-25e
Flowed 1,857 bbl., 30.1-gravity, 5 per cent cut, 2,700,000 cu. ft. gas. Two 1½-in. beans. Pressures: 250/850 lb. T.D. 9,200 ft. Drilled by Bell & Loffland, drilling contractors. Elev. 313 ft. Kern County.

SAN JOAQUIN VALLEY WILDCATS

Kreyenhagen District

Continental 1 Kreyenhagen 4-22s-16e
Drilling ahead at 8,550 ft. in Kreyenhagen. Top Kreyenhagen 8,333 ft. Expect 1,100 ft. of Kreyenhagen on top of Eocene. This is joint test of Continental, General Petroleum, Ohio and Fullerton Oil Co. Fresno County.

Panoche

Jergins Trust 1 Cheney 29-14s-13e
T.D. 9,225 ft. Plugged and redrilled to 7,350 ft. Acid treatment failed. Lost and recovered bit in liner. Reacidized, ran tubing and swabbed without response. Suspended. Tubing still in hole. This wildcat showed production possibilities while drilling but has failed to show any appreciable oil or gas on series of production tests. Fresno County.

Blackwell's Corner District

Seaboard 66-17 Beer 17-26s-19e
Drilling ahead in Eocene gray sand. Top Temblor 470 ft. Base Kreyenhagen 4,125 ft. Had small oil showing in base Kreyenhagen. Objective: Point of Rocks zone in Eocene. Kern County.

Tejon District

Richfield 1 Tejon Ranch 2-10n-19w
T.D. 7,023 ft. 9⅝-in. protection string cemented at 6,968 ft. to blank off sloughing basalt formation. Base basalt 6,449 ft. Electrical log showed water sand at 6,800 ft. Extreme western end, Kern County.

Buena Vista Hills District

Honolulu 25-P fee 10-32s-24e
Drilling ahead in hard brown siliceous shale at 6,651 ft. This well is located on Buena Vista anticline inside productive limits of Midway-Sunset field of Kern County, and is first projected deep test on structure. No oil showings have been logged for past several hundred feet. Objective is equivalent of Stevens sand of upper Miocene, Kern County.

Rio Bravo Outposts

Superior 1 Riggs 21-28s-25e
T.D. 12,324 ft. Rio Bravo sand topped 12,260 ft. and found barren. Lost drill pipe, drill collar, and bit at 8,740 ft. Abandoned because of mechanical trouble and unfavorable outlook. Kern County.

Superior 1 Bohna 20-28s-25e
Abandoned location.

Superior 1 Devine 21-28s-25e
Abandoned location.

Round Mountain District

Trico O. & G. 1 Coffee 8-28s-29e
T.D. 1,578 ft. Elev. 755 ft. Top of Vedder zone 1,555 ft. Vedder zone was barren gray sand.

Dudley Ridge District

General Pet. 1 Joint 6-23s-20e
General Petroleum Corp., Seaboard Oil Co., and Tide Water Associated Oil Co. are planning joint test in the southwest corner of this section. Kings County.

Delano (Trico) District

Associated 35-22 Daniel 22-24s-23e
T.D. 11,728 ft. P.B. to 10,900 ft. Ran 489 ft. of combination 6⅝-in. and 4¾-in. liner including 140 ft. of 100-mesh perforations and landed at 10,900 ft. Vedder, flow of salt water. Will P.B. and complete in gas sand. Top of Olcese gray sand 9,421 ft., top of Eocene 11,705 ft. Correlated 200 ft. lower than No. 1 Morris of Standard Oil Co., a dry hole drilled and abandoned last year. Tulare County.

Rio Vista District

Standard 1 State 31-4n-3e
T.D. 4,520 ft. in gray gas sand. Top green sand 4,326 ft., top Emigh gas sand 4,448 ft. Sacramento County.

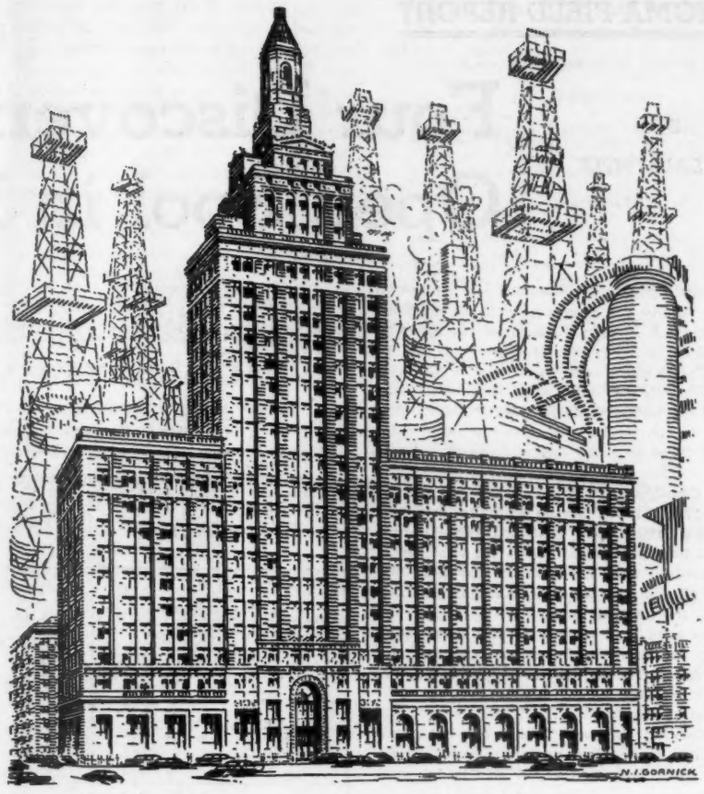
Rumsey Hills District

Standard 1 Rumsey 9-12n-3w
Standard has made tentative location for a test to be drilled in near future. The company has several thousand acres under lease and has acquired more within the past few months. This will be a test for gas.

COASTAL DISTRICT

None of the several wildcats being drilled in Santa Barbara County showed any change for better or worse during the past week. In the Betteravia district, Union Oil Co. is drilling ahead in the Sisquoc of middle or lower Pliocene age in No. 1 Pezzoni in 35-10-35 at 6,000 ft. The Sisquoc is about the equivalent of the Chanac and the Jacalitos of the San

(Continued on Page 81)



Built on a Background of Oil

When Col. Drake completed the world's first oil well on the banks of Oil Creek near Titusville, Pa., on August 27, 1859, the world's "first oil man" didn't know that he had discovered a new force that was to furnish power and lubrication for the wheels of industry, for transportation on land and sea and in the air or "oil for the lamps of China."

Rooted in the early history of the industry, the resources, facilities and services of the National Bank of Tulsa have grown with the needs of the oil business; its field of operations parallels that of the industry throughout the Mid-Continent and other fields.

Built on a background of oil, this bank not only occupies a place of leadership among the financial institutions of the nation, it is both of and for the petroleum industry.

NATIONAL BANK OF TULSA

MEMBER FEDERAL DEPOSIT INSURANCE CORPORATION

The Oil Bank of America

Four Discoveries Completed; Open Pool in Kiowa County

By
DAL DALRYMPLE

A NEW productive area in Oklahoma was uncovered in Kiowa County and discovery wells in the West Davenport pool of Lincoln County, North Okemah pool of Okfuskee County, Romulus pool in the St. Louis district of Pottawatomie County and a gas field in northern Pontotoc County were completed. The Cement field in Caddo County, where activity has decreased in recent weeks, was given a boost with completion of three oil wells and starting of six new tests.

The Kiowa County discovery is Bud Lewis 1 Wooten, SE cor. 28-7-17w, wildcat in the Komalty area and southeast of the Hobart pool. It topped Arbuckle lime at 893 ft. and had best pay at 948-55 ft., total depth. After being acidized with 1,000 gal., it flowed 84 bbl. of 36-gravity oil the first 24 hours and pumped and flowed 81 bbl. the next 24 hours.

A new Prue sand pool apparently has been found about midway between the Davenport and Sac and Fox pools in Lincoln County at Wilcox Oil & Gas Co. 1 Murphy, NE SE SW 7-14-6. It had Prue sand at 3,208 ft., total depth 3,268 ft. Oil and water was bailed after shooting the pay. Tubing has been run, tankage is being erected and operators were preparing to swab. If it fails to flow, it will be given a pumping test.

Gilcrease sand production in the south end of the Fish pool, Seminole County, has been proven at Winona Oil & Gas Co. 1 Meyers, SE SW NE 31-7-8, which was the Wilcox sand discovery well. After producing from Wilcox sand at 4,247 ft. for more than a year, it was plugged back in 1936 to Cromwell sand and has been producing from that zone. When production recently dropped to about 7 bbl. daily, operators plugged back to 2,990 ft., perforated with 156 shots in Gilcrease zone at 2,892-2,990 ft., and it tested 10 bbl. of oil an hour through tubing. It was estimated good for 200 to 250 bbl. daily. Other old producers in the area were expected to be plugged back to the shallower pay. The Fish field, one of the more active areas in the Greater Seminole district, has had several extensions on the south, north and northwest sides the past year.

Routine drilling continued in the Cumberland pool, Marshall-Bryan counties, where four wells are on production. Pure Oil Co. 1 Park College, SW SW SE 27-5s-7e, on the Bryan County side, probably will be the next completion. On a drill-stem test at 5,015-5,109½ ft., it showed 90 ft. of mud with odor and stains of oil and no water after the tool was opened 1 hour. The crew was drilling ahead.

WILDCAT OPERATIONS

COMPLETIONS, FIRST REPORTS

Creek County: Eagle Oil 1 Cheatem, SE SE SE 35-17-9, north of the Bristow area. Wilcox 3,288-3,314 ft., T.D. Dry.

Hughes County: Walker & Sexton 1 Hawthorne, SW SW SE 19-7-10. Lime 830 ft., T.D. 1,110 ft. Dry.

Scruggs Drilling 1 Hamilton, C SW SW 7-9-11. Booch 2,155-89 ft., T.D. 2,215 ft. Dry.

Kay County: Zephyr Drilling 1 State, NE NW SW 13-26-2w, south of the Hubbard pool. Building rig.

Lincoln County: Vierson O. & G. 1 Bell, SW SW NE 5-14-5, opened West Davenport pool. Prue 3,500 ft., set 7-in. 3,505 ft., T.D. 3,532 ft., P.B. to 3,527 ft., pumped 44 bbl. oil, 18 bbl. water.

Logan County: Wilson 1 Fry, NW NW NW 4-18-4w, south of the Marshall pool. Cellar.

Noble County: Helmerich & Payne 1 Fireshaker, SE SE NE 11-24-3. Wilcox 3,965 ft., Arbuckle 4,158-84 ft., T.D., P.B. and perf. Dry.

Okfuskee County: Texas 1 Cowan, SW SW SW 5-11-10, opened North Okemah pool. Woodford 3,632 ft., Misener 3,645 ft., Hunton 3,646 ft., Sylvan 3,735 ft., Viola 3,835 ft., dolomite 3,865 ft., first Wilcox 3,879 ft., second Wilcox 3,903-16 ft., T.D., P.B. to 3,719 ft., acidized 1,000 gal., flowed 294 bbl. of oil through ⅛-in. tubing choke in 24 hr., cutting 5 per cent, gravity of the oil 42.2°.

Okmulgee County: Sheridan Oil 1 Hayden, NE NW SW 4-15-12. Wilcox 2,616 ft., T.D. 2,626 ft. Dry.

Pawnee County: Benedum-Trees 1 State, SW NW NW 13-21-6. Arbuckle 3,356-62 ft., T.D. Dry.

Pontotoc County: Kerlyn 1 Chism, NW SE SE 24-5-6, north of West Francis pool. Sand 1,933 ft., best pay 1,940-70 ft., T.D. 2,173 ft., P.B. to 1,972 ft., perf. with eight shots at 1,939-50 ft., gaged 11,000,000 cu. ft. gas, with 650 lb. rock pressure.

Pottawatomie County: J. F. Smith et al 1 Brown, NE SE NE 6-7-4, Romulus area, St. Louis district. Set 7-in. on top of Hunton at 3,957 ft., T.D. 3,993 ft., swabbed 377 bbl. in 24 hr., flowed 345 bbl. in 24 hr.

Seminole County: Mid-Continent Pet. 1 Porter, NW SW NW 12-7-7, northwest of Fish pool. Set 10-in. at 100 ft., waiting.

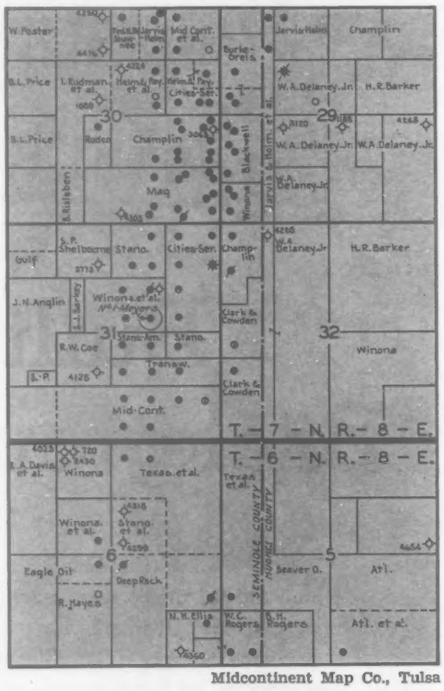
J. T. Miller et al 1 Buckner, SE SE NE 20-10-8, south of Cromwell pool. Spudded and S.D.

FIELD COMPLETIONS

Caddo County

Cement field: Magnolia 8 Medrano, NW SW SW 36-6-10w. Sand 3,438-53 ft., T.D., set 7-in. 3,435 ft., flowed 63 bbl. in 4 hr. through tubing on gas lift, potential 375 bbl.

Ohio 7 Lackey, NE SW NW 11-5-9w. Rowe 3,337 ft., T.D. 3,387 ft., 4½-in. 3,337 ft., flowed 176 bbl. in 4 hr. through casing, potential 1,065 bbl., flowing.



Midcontinent Map Co., Tulsa

Gilcrease production has been found in the south part of the Fish pool, Seminole County, at Winona Oil & Gas 1 Meyers, SE SW NE 31-7-8, the Wilcox sand discovery well in the pool which was plugged back and worked over in the upper pay. Wilcox and Cromwell zones are productive elsewhere in the pool

Ohio 4 Rigney, NW SW SE 12-5-9w. Rowe 3,315-27 ft., T.D. 3,342 ft., flowed 107 bbl. in 4 hr. through casing, potential 883 bbl.

George Pace 2 Wray, SE SW NE 6-5-9w. T.D. 4,206 ft. Dry.

Ray Stephens 1 Zachary, SW NW SE 1-5-9w. Location abandoned.

Creek County

Bristow area: Jackson 1 Bear, NE NE NE 2-16-9. Location abandoned.

Bowden area: Abe Peppis 5-A Land, SW SE NW NW 12-18-11. T.D. 1,413 ft., pumped 5 bbl.

Mounds area: Strozier Drilling 11 Bierly, NW NW SW 12-16-11. T.D. 1,805 ft. Dry.

Slick district: Tibbens 1 Judeman, NW SW NW 9-14-10. Misener 3,172 ft., T.D. 3,200 ft., P.B. to 3,192 ft., shot with 44 qt. at 3,172-87 ft. and 10 qt. at 3,176-88 ft., pumped 20 bbl. oil and 65 bbl. water.

Grady County

Knox field: T. H. McCasland 1-B Horton, NW NE NE 8-3n-5w. Sand 2,542 ft., T.D. 2,658 ft., P.B. to 2,600 ft., 8¼-in. pipe 2,505 ft., pumped 35 bbl. oil.

Hughes County

Alabama area: Ellison 1-A Bvrd, SE NE SE 4-9-11. Wilcox 3,758 ft., T.D. 3,826 ft. Dry.

Lincoln County

Laffoon area: Royalty 1 Cargill, C NE SW 9-13-6. Hunton 4,128 ft., Sylvan 4,156-61 ft., T.D. Dry.

Jackson County

Altus field: Gulf 4 Herbert, NE SE SE 9-1n-20w. Granite wash 1,381 ft., set 7-in. pipe there, T.D. 1,542 ft., flowed 110 bbl. by heads, swabbed 163 bbl., pumped 115 bbl., gravity of the oil 41.7°.

Okfuskee County

Dill pool: Seran 5 Seran, SW NW NW 2-11-8. Sand 3,515 ft., T.D. 3,544 ft., flowed an est. 1,500 bbl. in 24 hr., flowed 200 bbl. in 24 hr., pinched, gas gaged 6,000,000 cu. ft.

Okemah area: Snyder 3 Berryhill, NE SE NW 35-11-9. Sand 1,474 ft., T.D. 1,495 ft., shot with 30 qt., pumped 15 bbl.

Oklahoma County

Oklahoma City field: Phillips 1 Anthony, SE SE SW 27-12-3w. Set 7-in. 6,432 ft., Wilcox 6,502 ft., T.D. 6,605 ft., shot with 190 qt. at 6,525-6,600 ft., pumped 570 bbl. in 24 hr.

Osage County

Osage City field: Moore et al 4 Osage, NW NW SW 35-22-8. T.D. 2,008 ft., 122 bbl.

Payne County

Coyle pool: Helmerich & Payne 3 Collins, C W½ NE NW 13-17-1e. Old well P.B. from 4,892 ft. to 4,720 ft., perf. 4,605-20 ft., pumped 49 bbl. oil and 440 bbl. water.

Ramsey pool: Mid-Continent 2 Simpson, SW SW SW 7-18-2e. Old well P.B. from 4,882 ft. to 4,774 ft., perf. with 48 holes in Hunton at 4,677-83 ft., swabbed 79 bbl. of oil and 230 bbl. of water.

Pontotoc County

Vanoss area: Zumbro 3 Owenby, NE SE SW 21-3n-4e. Sand 907 ft., T.D. 1,072 ft. Dry.

Pottawatomie County

Shawnee pool: Ray Dunnett 3 Rodgers, SE NE SW 31-11-4. Sand 4,443-85 ft., T.D., 7-in. 4,443 ft., shot with 40 qt. at 4,465-85 ft., flowed 345 bbl. of oil and 10 bbl. of water.

Seminole County

Cromwell field: McIntyre 8 Johnson, CWL SW NE 10-10-8. Sand 1,558 and 1,610 ft., T.D. 1,855 ft. Dry.

Tulsa County

Bird Creek area: Birdcreek Oil 1-A Blackwood, E½ SE 31-22-13, T.D. 1,241 ft., pumped 12 bbl.

Vern area: H. M. Cooper 2 Smith, NW SW SE 3-19-12. T.D. 1,248 ft. Dry.

Wagoner County

McCracken area: B. Mullins 1 Lyons, NW SE SE 20-18-17. T.D. 385 ft., est. 25 bbl.

Neodesha area: C. K. Minter 9 McClure, NE NE SW NE 12-18-17. T.D. 290 ft. Dry.

FIRST REPORTS

Caddo County

Hughey 1 Mayes, old well drilling deeper ..... SE NW SE 3-5-9w
Ohio 8 Lackey-2 ..... SW SW NW 11-5-9w
Ohio 17 Pau-Kune ..... NL SW SE 3-5-9w
Ohio 5 Rigney ..... SE SW SE 12-5-9w
Ohio 10 Wagner-2 ..... SW NW SW 12-5-9w
Palmer 3 Sterba ..... NW NW SW 35-6-10w

Carter County

Cox et al 2 Harrell ..... NE SE SW 20-4s-2w
Lamb 1 fee ..... NW NW NE 29-4s-2w

Creek County

Martin 1 Harrison ..... SE NE NE 8-14-10
Thames 2 Richards, old well drilling deeper ..... C SE SE 36-18-9
Tilley 4 Wright ..... SW NW SE 17-17-8
Wilcox O. & G. 1 Deere ..... NE SW NE 34-14-7

Jackson County

Gulf 5 Herbert ..... NW SE SE 9-1n-20w

Okfuskee County

I. T. I. O. 1 Miller ..... SW NW SW 35-12-8
Oak 1 Walker ..... SE NE SE 13-10-10
Seran 3 Seran, old well drilling deeper ..... NW SE NW 2-11-8

Oklahoma County

Westgate 2-A Carey ..... NW NW SE 34-12-3w

Payne County

Berry 1 Johnson ..... NE SW SE 17-17-6

Pontotoc County

L. & L. Drilling 2 McCool ..... NE NW SE 6-4-7
Mitchell 1 Skirvin ..... NE SE SE 10-4-6
Senora 2 Burke ..... NE NW NE 36-5-4
Superior 5 Indian Boy ..... SE NE NW 36-5-4

Pottawatomie County

Gulf 4 Green, old well drilling deeper NE NW SE 17-7-4

Seminole County

Amerada 1 Pyle, old well drilling deeper ..... NW NW SE 3-10-5
Cutsinger 1 Harjo ..... SE NE SW 19-7-8
Justin 1 Rhea ..... S½ SE SW 12-9-6
Villines 2 Swan ..... NW NW NE 26-7-5
Mohican 1 Thlocco ..... NE SW NW 30-7-7
Wise 1-A Berryman ..... SW NE NW 10-10-8

Stephens County

Central 2-B Wade ..... SW NW SE 12-1n-5w
Hanks 4 Simpson ..... SE NW NE 12-1n-5w

WILDCAT DRILLING REPORT

Creek County

Stonehill Drilling 1 Vann.....NW SE NW 7-17-9 Mississippian 2,994 ft., drilling 3,185 ft.

Garvin County

Thompson 1 Alliance.....SW SE SW 22-4-2 Belle City 2,220 ft., drilling 2,403 ft.

Lincoln County

Kemp et al 1-A Tanner.....SE cor. 28-17-5 Oswego 3,010 ft., show gas 3,070 ft., drilling 3,080 ft.

Okfuskee County

W. L. Graham 1 McLain.....SE SW SW 7-12-7 Prue-2,949 ft., T.D. 2,968 ft., received mud on D.S. test, may run casing.

Haynes Drilling 1 McKernan.... C E½ SE NW 25-12-8 Checkerboard 1,438 ft., Cleveland 1,500 ft., Oswego 1,945 ft., drilling 2,490 ft.

Pottawatomie County

Townsend et al 1 Lynn.....NW NE NW 28-6-4 Woodford 3,235 ft., Hunton 3,468 ft., Viola 3,576 ft. Dense 3,622 ft., dolomite 3,672 ft., second Wilcox 3,899 ft., T.D. 3,925 ft., set 5-in. casing 3,903 ft. to test Viola and dolomite.

Caddo County

Texas 1 Smith.....NE NW 2-5-12w Dense lime 2,927 ft., cored 3,220-23 ft., 3,270-75 ft., show oil, drilling 3,294 ft. in lime.

Estimated Daily Production

Estimated daily production in Oklahoma for the week ended August 24, and for the preceding week, was as follows:

	Barrels	
	Aug. 24	Aug. 17
Allen	5,250	5,250
Billings	6,050	6,000
Burbank	7,200	7,050
South Burbank	7,975	7,925
Balance Osage	18,250	17,125
Blackwell district	3,300	3,300
Bristow-Slick	5,825	5,800
Chandler	1,050	1,025
Crescent	2,125	2,100
Cromwell	2,900	2,850
Cushing-Shamrock	9,225	9,050
Duncan	3,625	3,600
Edmond	3,800	3,850
Fish	3,150	3,175
Fitts	15,250	15,350
Jesse	2,150	2,125
Graham-Fox	2,475	2,475
Gray	825	800
Healdton	8,725	8,700
Hewitt	3,950	3,875
Keokuk	3,050	3,100
Konawa	1,075	1,050
Lucien	7,850	7,900
Moore	1,725	1,775
Northeastern counties	17,300	17,100
Oklahoma City	97,600	96,850
Olympic	2,000	1,925
Ramsey	3,725	3,675
Sasakwa	1,475	1,450
Sholem-Alechem	2,775	2,650
Seminole district:		
Bowlegs	6,650	6,650
Carr City	2,325	2,325
Dora	2,225	2,250
Earlsboro	4,100	4,125
East Earlsboro	1,800	1,750
South Earlsboro	500	525
Little River	6,650	6,575
East Little River	625	625
Maud	525	550
Mission	1,225	1,200
Seminole	6,825	6,800
East Seminole	1,200	1,125
Searight	2,000	2,050
Total Seminole	36,650	36,550
St. Louis-Pearson	25,150	25,500
Tatums-Tussy	2,500	2,375
Tonkawa-Garber-Thomas	3,600	3,600
Wewoka	1,500	1,450
Yale-Jennings	3,050	3,050
Other pools	83,175	81,050
Total Oklahoma	407,300	402,475

California Fields

(Continued from Page 79)

Joaquin Valley and the Pico and Repetto of Los Angeles Basin. The objective of this well is the upper Miocene. This is the second well to be drilled by Union Oil Co. on the Pezzoni lease and while no showings of importance have been found it is better located than the original well which was abandoned. No. 1 Pezzoni was drilled on the wrong side of the fault and when this was ascertained the hole was abandoned and the present well started. In the Goleta district of Santa Barbara County, Texas Co. is going ahead in the Sespe at 4,340 ft. and is headed for a look at the underlying formations. Top of the Sespe was logged in this wildcat at 3,750 ft The Eocene should be found at about 6,000 ft. In the Lompoc district, Tide Water Associated Oil Co. is rotating ahead in the Temblor at 2,450 ft. but still has some distance to go before reaching its objective.

Chanslor-Canfield Midway Oil Co. is still continuing its development program in the Rincon field of Ventura County and has derricks going up for two additional wells. At present the company has two wells under way and should have them ready for production within another few weeks. This company has completed several excellent flowing wells in this field during the past year and still has a number of good locations waiting for the drill. This field was discovered by Pan American in 1927 when the discovery well came in flowing 1,350 bbl. per day from a depth of 3,100 ft. Rincon is located at the western extremity of the Ventura Avenue anticline at a point just east of where the anticline plunges beneath the Pacific Ocean. As development work continued wells were drilled out in the ocean and a number secured satisfactory production. One outpost was drilled approximately 2,500 ft. out in the ocean from a specially constructed steel island that was for a time an engineering feat of importance. All material had to be moved in and erected from a barge as no right-of-way could be secured from the uplands. Within the past year or so this drilling island succumbed to the ceaseless pounding of the surf and tides and tumbled into the ocean.

COASTAL DISTRICT WILDCATS

Betteravia District

Union 2 Pezzoni .....33-10n-35w Drilling ahead in Sisquoc at 5,990 ft. Santa Barbara County.

Goleta District

Texas 1 Bishop .....13-4n-29w Drilling ahead at 4,270 ft. Top of Vaqueros 3,306 ft., top Sespe 3,750 ft. If Sespe not too thick, may go down to Eocene. Formation test showed Vaqueros wet. No showings in Sespe to date. Santa Barbara County.

Lompoc District

Associated 1 Souza.....12-6n-33w Drilling ahead in Temblor shale at 2,440 ft. No showings noted on log. Objective: Vaqueros and Sespe. Santa Barbara County.

Sespe District

Merchants 8 Cochran.....1-4n-20w This well being carried down for test of Eocene. Still in Sespe sand and shale at 2,620 ft. Core 2,574-76 ft. showed characteristic hard, coarse, red sand containing good oil sand. Ventura County.

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Northern Alberta Foothills Gas Structure Proved

By VICTOR LAURISTON

CHATHAM, Ont., Aug. 24. — The Alberta Conservation Board has issued a revised order increasing the aggregate crude allowable from the Turner Valley field from 26,000 to 26,828 bbl. a day. The new schedule covers 116 wells. Five new completions not previously listed account for 2,200 bbl., so that the old producers are actually down from 26,000 to 24,628 bbl. Increased allowables have been granted a number of the older wells, but operators generally are refusing to operate to capacity, with a view to maintaining favorable gas-oil ratios and securing the largest possible ultimate production.

Home Oil Co. 2, North Turner Valley, is the largest producer, with 1,025 bbl., Home 3 ranking second with 975 bbl., and Arrow Royalties 1, in the West Central field, ranking third with 800 bbl. New wells include Alberta Oil Incomes 1, LSD 4, 34-20-3w5, with 700 bbl.; Anglo-Phillips 1, LSD 13, 15-20-3w5, with 400 bbl.; and Foothills Oil & Gas 6, LSD 5, 27-20-3w5, with 350 bbl. All these are in North Turner Valley. The other new wells are Royalite 51, LSD 13, 5-19-2w5, West Central field, with 250 bbl., and Commoil 3, LSD 13, 29-18-2w5, with 500 bbl.

West Central field: South West Petroleum 4, LSD 4, 8-19-2w5, is below 6,900 ft. after getting the Madison lime at 6,787 ft.

Pacific Petroleums 5, LSD 6, 7-19-2w5, is below 7,883 ft. after getting the Madison at 7,638 ft. Drill-stem test of the upper porous zone gave substantial oil showings, with heavy pressure.

New Tests Planned

Anglo-Phillips 2, originally located in LSD 13, 15-20-3w5, in North Turner Valley, will be drilled in LSD 9, 35-19-3w5, in the West Central field. The earlier location was immediately west of Anglo-Phillips 1, but the latter, though a good producer in the upper lime, encountered salt water in the lower zone, indicating that drilling further west would be beyond the oil-water line. The new location is ½ mile east of the Outwest well, drilled in 1929, which faulted to the Belly River formation at 2,540 ft. It is 1¾ miles north and slightly west of Regal 1, the most northerly location yet made in West Central Turner Valley and about 3 miles south and a mile east of Anglo-Phillips 1, producer in North Turner Valley.

In North Turner Valley Albert Oil Incomes 3 and Millarville Royalties 1 will be located as soon as results of Incomes 2 are definitely known. In the west central area new drilling will include Okalta Oil 10, Pacific Petroleums 6, Twin Valley Syndicate 2, and wells by the Brown-Moyer-Brown, Commonwealth, Major Oil Investment, and F. P. Byrne interests. Several new tests will likely be started by Royalite Oil Co. and associated interests.

Brazeau Well

On the Brazeau structure in the northern foothills Home Oil 1, LSD 16, 7-43-17w5, bottoming above the lime at 8,713 ft., is continuing production tests. Heavy gas pressure interfered with early tests, and high-pressure equipment, including christmas tree, is being installed. A flare line has been run ¼ mile from the well to take care of the gas. The flow encountered in the lowest of three horizons, around 8,550 ft., was estimated 9,000,000 cu. ft. a day, and contains considerable naphtha; while some 56-gravity crude is also flowing. The well was cemented back after faulting back from the Kootenay to the Blairmore formation. Casing was cemented at bottom, and two other horizons between 8,160 and 8,550 ft. will be gun-perforated and tested.

The Brazeau structure is in northern Alberta, approximately 150 miles northwest of Calgary. A length of 45 miles has been determined, in which Home Oil Co. has an 87,000-acre block. The company will undertake additional drilling, and it is expected the Madison limestone, original objective of No. 1 well, will be reached at other points on the structure.

Other Alberta Tests

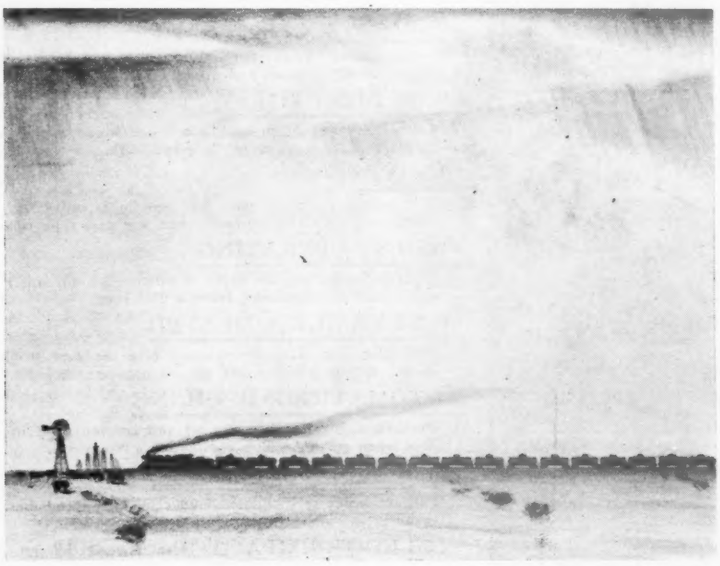
On the Mill Creek structure in the southern foothills Alliance Royalties 1, LSD 14, 11-6-2w5, is below 6,243 ft. and believed close to the Madison limestone. A 23-ft. sand with good saturation was encountered in the lower Blairmore formation at 4,600 ft. with smaller shows of oil and gas at 4,770, 5,150, and 5,250 ft. A small show was met in the Dalhousie sand at 5,587 ft., with a larger showing in the Kootenay at 5,694 ft. The test is west and down the fold from the old Weymarn well, drilled to 6,420 ft., which failed to reach the Madison owing to faulting.

In the Steveville field, east of Calgary, Standard of British Columbia 1 Princess, LSD 12, 22-20-12w4, is testing, with only noncommercial shows of oil and gas, accompanied by some water. Standard 2 Tide Lake, LSD 9, 19-18-9w4, is below 3,647 ft.

ONTARIO

In Metcalf Township, Middlesex County, Ontario, R. McCaffney, of Bothwell, drilling for the Adams Syndicate of London on the Arthur Freer farm, Concession 6, brought in a large shallow-crude producer. Gas pressure flung the oil above the 40-ft. derrick

(Continued on Page 93)



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from a lithograph by E. M. Schimetz

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Open New Oil Pools in Barton, Phillips, Stafford Counties

By
DAL DALRYMPLE

WILDCAT exploration in Kansas continued to get results the past week, with discoveries being recorded in Phillips, Barton, Stafford and Cowley counties. Operators were preparing to test a wildcat in Kearny County, a fast townsite drilling play continued at Severy in Greenwood County and several large producers were completed in proven fields to round out a busy week in the Sunflower State.

The Phillips County discovery is Cities Service Oil Co. 1 Ray, NE NW SE 32-5s-20w, in the southwestern corner of the county. It pumped 858 bbl. of oil on physical test in 24 hours, with no water showing. Gravity of the oil was reported to be 34.5° at 91°, but this was expected to be corrected to about 33° gravity. Basal sand was found at 3,543-85 ft., granite 3,585-3,603 ft., total depth, and 5-in. casing was set on bottom. Casing was perforated with 72 shots at 3,540-53 ft., and oil rose 2,300 ft. in the hole in 9 hours prior to beginning of the pumping test. This is the second Phillips County discovery, the other being the Bow Creek pool, about 16 miles eastward.

C. L. Carlock and associates opened a Barton County pool at No. 1 Hammer, CNL NE NW 35-19-12w, about 2 miles northwest of the town of Ellinwood. It had initial daily output of 449 bbl. of 41.61-gravity oil. It topped Lansing lime at 3,105 ft. and had oil showing in that formation, but operators drilled to Arbuckle lime at 3,347½-3,370 ft., total depth, and acidized with 3,500 gal. The operators have started work at No. 1 Schulte, CWL SW SE 26-19-12w, northeast offset to the discovery.

Shell Oil Co. 1 Bean, SE SE SW 21-23-12w, wildcat 4 miles southwest of the Richardson pool in Stafford County, swabbed 117 bbl. of oil in 6 hours, opening the second pool to be discovered in that county this month. Production was from the Arbuckle formation at 3,839-48 ft., total depth.

Discovery of another Stafford pool appeared imminent at Charles Seaney et al 1 Boyd, C W½ SW SW 4-21-14w, in the northwestern corner of the county. It had oil showing in Lansing lime topped at 3,330 ft., found Arbuckle lime at 3,645 ft., drilled 1 ft. into the formation and set 4½-in. casing for production test.

The Cowley County discovery was W. M. McKnab 1 Snyder, CWL NW NW 15-34-3e, a 25-bbl. producer in Bartlesville sand at 3,265-80 ft., officially listed as a completion. It is northwest of Arkansas City.

Five producers were completed in the Severy pool, southern Greenwood County, where a townsite drilling campaign is under way. Production is from Kansas City lime.

COMPLETIONS

Barton County

Ellinwood pool: Texas 2 Petz, S½ NE SE 7-20-11w, maximum allowable 3,000 bbl., Arbuckle 3,295-3,309 ft., T.D.
South Silica pool: Lario Oil & Gas 2 Reiser, NL NE NW 23-20-11w, swabbed 60 bbl. per hr., Arbuckle 3,275-92 ft., T.D.
Wildcat: Imo Oil & Gas 1-A Eveleigh, EL SW NE 3-18-14w. Dry. Lansing 3,126 ft., conglomerate 3,338 ft., T.D. 3,390 ft.

Butler County

Wildcat: Vern McDaniel 1 Eckel, NW NE NW 7-27-7, pumped 40 bbl., 37 gravity, Lansing 3,184-89 ft., T.D.
Garden pool: M. & B. Oil Co. 2 Yingling, SW NW SE 29-26-6, pumped 25 bbl., Kansas City, 2,120-2,787 ft., T.D.

Cowley County

Wildcat: McKnab 1 McKowan, NE NE SW 31-33-5. Dry. Mississippian 3,122 ft., T.D. 3,245 ft.
West Ferguson pool: Winkler-Koch 9 Ferguson, NW NE SW 21-30-8, pumped 20 bbl., Kansas City 2,155-64 ft., T.D.
Wildcat: McKnab 1 Snyder, WL NW NW 15-34-3, pumped 25 bbl., 40 gravity, Bartlesville 3,265-80 ft., T.D.

Ellis County

Bemis pool: Deep Rock 29 Baumer, SE NE SE 27-11-17w, pumped 139 bbl., Arbuckle 3,450-74 ft., T.D. 3,500 ft. (old T.D. 3,464 ft.).
Burnett pool: Dickey Oil 4 Husted, SL NW SW 18-11-17w, maximum allowable 3,000 bbl., Arbuckle 3,332-42 ft., T.D.
Tide Water 3 Riddler, SW SE SW 1-11-18w, maximum allowable 3,000 bbl., Arbuckle 3,435-44 ft., T.D.
Phillips 5 Peavey, SL NW SE 13-11-18w, swabbed 226 bbl. an hour, Arbuckle 3,397-3,402 ft., T.D.

Ellsworth County

Wilkens pool: Comet Drilling 1 Wilkens, NL NW SW 18-17-9w, pumped 400 bbl. in 20 hr., potential 1,009 bbl., Arbuckle 3,243-69 ft., T.D.
Comet Drilling et al 1-A Splitter, NL NE SW 19-17-9w, pumped 175 bbl. in 15 hr., Arbuckle 3,220-30 ft., T.D.
Stoltenberg area: Atlantic 2 Stoltenberg, SL NW SE 27-16-10w, pumped 15 bbl. an hr., Arbuckle 3,792-94 ft., T.D.

Greenwood County

Severy pool: Blankenship et al 1 Westbrook, NW SW NE 17-28-11, 40 bbl., Kansas City 1,225-28 ft., T.D.
Creel et al 1 Saunders, NW NW NE 17-28-11, 30 bbl., Kansas City, 1,217-35 ft., T.D.
Reed et al 1 Blevens, NW SE NE 17-28-11, 40 bbl., Kansas City, 1,087-1,226 ft., T.D.
Reed et al 3 Dove, WL NE NE 17-28-11, 15 bbl., Kansas City 1,188-99 ft., T.D.
Shewmaker 1 Taimon, NW NW NE 17-28-11, 15 bbl., Kansas City 1,228-32 ft., T.D. 1,233 ft.

McPherson County

Bornholdt pool: Cities Service 1 Nyquist, N½ NE NW 19-20-5w, 34 bbl., chat 3,341-44 ft., T.D. 3,395 ft.
J. E. Crosbie, Inc. 2 Briggs,, EL SE SW 20-20-5w, est. 240 bbl., chat. 3,382-97 ft., T.D. 3,398 ft.
Moulton 3 Bornholdt, N½ SW SE 30-20-5w, flowed 87 bbl. an hour, chat 3,316-38 ft., T.D.
Sunray 4 Mattson, EL SW NE 30-20-5w, 48 bbl., Mississippian 3,325-62 ft., T.D. 3,389 ft.

Marion County

Hillsboro pool: Aladdin Pet. 3 Rempel, SW SE SE 12-19-2, pumped 50 bbl. oil and 50 bbl. water, Viola 2,851-57 ft., T.D.

Pratt County

Cunningham pool: Skelly 1 Armistead, WL NW SE 2-28-11, 28,000,000 cu. ft. gas, Viola 4,178-98 ft., T.D.

Reno County

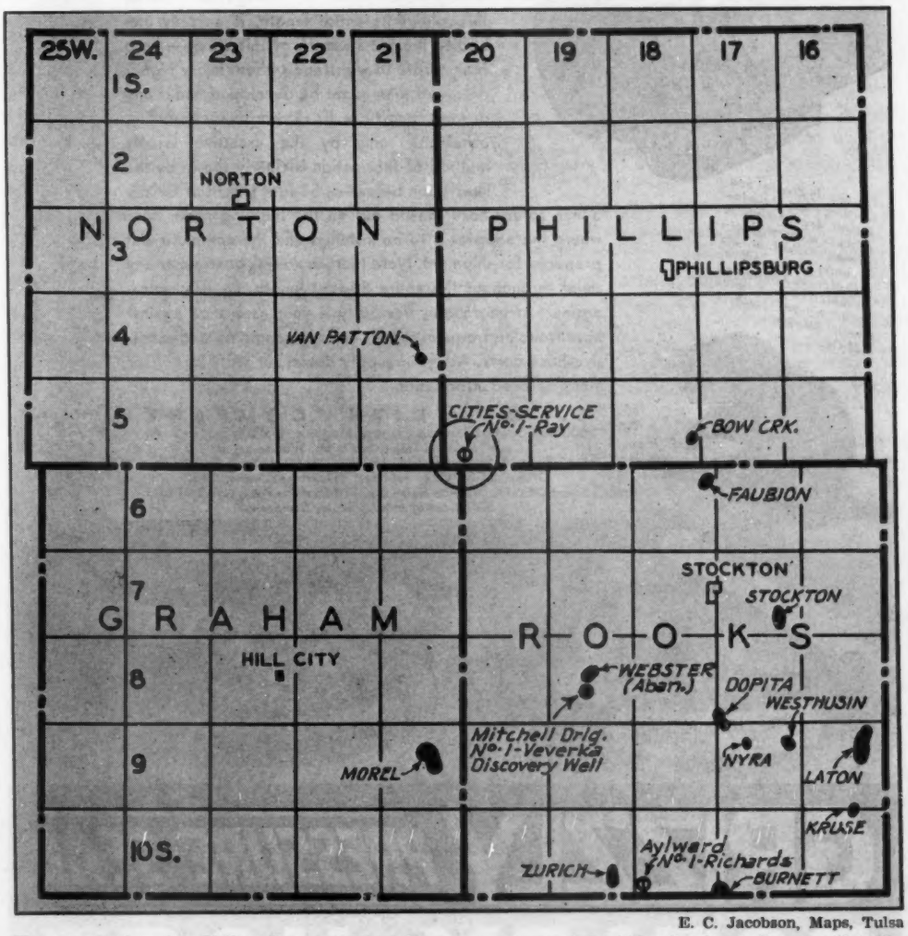
Burton pool: Transwestern 8 Teten, SW SW SE 12-23-4w, pumped 194 bbl. in 8 hr., potential 582 bbl., Mississippian 3,357-69 ft. and 3,374-77 ft., T.D. 3,429 ft.

Rice County

Bornholdt pool: Central Pet. 1 Duvall, NL SE NE 13-20-6w, 58 bbl., chat 3,307-15 ft., T.D. 3,340 ft.
Westgate-Greenland 3 Johnson, SL NE SE 24-20-6w, 16 bbl., chat 3,276-3,362 ft., T.D.
Wherry pool: Heimerich & Payne 1 Harold, N½ N½ SW 31-20-7w, 49 bbl., Sooy 3,309-27 ft., T.D.
Wildcat: Royer, Duwe & Farris 1 Hutchinson, WL SW SE 29-21-8w. Dry. Viola 3,541 ft., Simpson 3,631 ft., Arbuckle 3,691 ft.
Raymond pool: Holl & Branine 1 Warner, WL SW NE 16-20-10w, 35 bbl., Lansing 3,154-65 ft., T.D. 3,434 ft.
Bloomer area: Transwestern 3 Roesler, SL SE NW 6-18-10w, maximum allowable 3,000 bbl., Arbuckle 3,231-37 ft., T.D.

Russell County

Trapp pool: Republic Natural Gas 3 Resner, EL NW SW 23-15-14w, pumped 81 bbl. in 8 hr., potential 243 bbl., Arbuckle 3,329-35 ft., T.D.
Wildcat: Pryor & Lockhart 1 Davidson, EL NE NW 12-15-11w. Dry. Lansing 2,930 ft., Simpson 3,276 ft., Arbuckle 3,309 ft., T.D.
Greenvale area: Cities Service 1 Schartz, EL SE NE 5-15-12w, maximum allowable 3,000 bbl., Gorham sand 3,182-86 ft., T.D.
Coralena pool: Carter 3 Sellens, N½ N½ SW 17-15-13w, pumped 109 bbl. in 8 hr., potential 328 bbl., Arbuckle 3,223-25 ft., T.D.
North Fairfield pool: Cities Service 2 Redetzke, SW NE



E. C. Jacobson, Maps, Tulsa

The second oil pool in Phillips County, northern Kansas, was opened at Cities Service 1 Ray, in 32-5s-20w, about 16 miles west of the Bow Creek pool and about 30 miles south of the Nebraska State line. The map shows location of the discovery in relation to other productive areas along the northwest extension of the Central Kansas uplift

NE 21-15-13w, 72 bbl., Arbuckle 3,324-34 ft., T.D.
Hall pool: Continental 3-A Rein, SL NE SW 27-14-13w, pumped 501 bbl. in 10 hr., potential 1,503 bbl., Lansing 2,833-2,943 ft., T.D.

Rooks County

Laton pool: Broadview et al 3-A Livingood, SL SW NW 11-9-16w, maximum allowable 3,000 bbl., Lansing 3,140-3,210 ft., T.D.
G. E. Mitchell 1 Brown, N½ N½ SE 14-9-16w, pumped 102 bbl., Lansing 3,333-38 ft., T.D.
Cities Service 1 Buell, NL NE SW 10-9-16w, swabbed 95 bbl. in 11 hr., completed for maximum allowable of 3,000 bbl., Lansing 3,187-3,211 ft. and 3,219-23 ft., T.D. 3,495 ft.

Stafford County

Zenith pool: Stanolind 2 Richardson, EL SE NW 10-24-11w, flowed 50, 57, and 53 bbl. per hour on three 1-hr. tests., Viola 3,743-3,810 ft., T.D.
Skelly 2 McNickle, N½ SW SE 2-24-11w, flowed 263 bbl. in 8 hr., Viola 3,685-3,760 ft., T.D.

FIRST REPORTS

Barton County

Sharon Drilling 3 Luerman.....NL NE SE 18-16-13w

Butler County

McDaniels 2 Eckel ..... SW NE NW 7-27-7
Rex & Morris 1 Whitmer ..... NW SE SE 16-28-7
Mohawk Oil 1-A Schafer ..... SE NW SE 4-27-6
Richmond et al 1-A McLean ..... SE SE NW 8-27-6
Plymouth et al 1-A Graves ..... SW SE NW 17-29-4
National Refining 16 Lathrop .... SE NE NW 17-23-4

Cowley County

Aylward Prod. 2 David 35-30-4
W-K Royalty 10 Ferguson 21-30-8

Ellis County

Nadel et al 1 Carmichael ..... NE SE NE 11-11-18w

Marion County

Lost Springs Oil 7 Merllott ..... S½ N½ N½ 23-17-4

Russell County

Phillips 2 Roesner ..... N½ NW SE 9-15-13w
Helmerich & Payne 1 Everett .. EL SE NW 20-15-13w
Shell 6-A Batt ..... NW NE SE 35-15-14w
Jones et al 1 Lewis ..... SW SW NE 28-14-12w

Stafford County

Skelly 3 McNickle ..... SL NW SE 2-24-11w
Getty, Inc. 1 Johnson ..... EL NE SE 3-24-11w
Transwestern 4 Johnson ..... WL SW SE 3-24-11w

WILDCAT REPORTS

Butler County

Transwestern Oil 1 Buck....C S½ SW NE 35-30-14w Mississippian 4,321 ft., Misener sand 4,382 ft., slight stain. Viola 4,389 ft., Simpson 4,536 ft., drilling 4,593 ft.

Barton County

Earl Wakefield 1 Staatz.....C S½ SE SW 23-17-11w Topeka 2,670 ft., drilling 2,815 ft.

Cowley County

Sage et al 1-A Carlson.....CWL SW SW 21-30-3 Sand 2,058-2,185 ft., set 8-in. casing 2,200 ft., T.D.

Kearny County

Stanolind 1 Judd.....C SE SE 15-21-38w Lansing 4,060 ft., Mississippian 4,811 ft., Viola 5,425 ft., Arbuckle 5,555 ft., granite 6,070-71 ft., T.D., P.B. 5,384 ft., to run 7-in. casing.

Phillips County

Cities Service 1 Ray.....NE NW SE 32-5-20w Granite 3,585-3,603 ft., T.D., 2,300 ft. O.I.H.

Rooks County

Aylward Prod. 1 Richards C N½ NW SW 31-10-18w Show oil in Sooy 3,439 ft., drilling 3,535 ft.

Stafford County

Seaney et al 1 Boyd.....C W½ SW SW 4-21-14w Topeka 3,133 ft., Lansing 3,330 ft., show oil and gas, drilling 3,530 ft.
Shell and Atlantic 1 Riley.....SW cor. 28-23-11w Sooy 3,643 ft., Simpson 3,697 ft., Arbuckle 3,762-72 ft., T.D., R.U.S.T.

Estimated Daily Production

Estimated daily production for Kansas for the week ended August 24, and for the preceding week, was as follows:

	Barrels	
	Aug. 24	Aug. 17
Oxford City	700	700
Burrton	7,900	7,900
Ritz-Canton	4,200	4,150
Graber	2,900	2,300
Hollow-Nikkel	1,750	1,750
Lerado	600	500
Voshell	1,650	1,700
Wellington	1,700	1,750
Ellsworth County:		
Lorraine	1,500	1,400
Other pools	4,110	3,890
Rice-Barton counties:		
Bloomer	4,250	4,950
Chase	4,800	4,800
Geneseo	3,650	3,450
Raymond	900	850
Silica	14,550	15,350
Keesling	650	700
Wherry	3,600	3,900
Miscellaneous Barton	8,580	8,955
Trapp district	14,250	14,300
Balance Russell County	18,350	18,600
Sedgwick County	3,150	3,200
Ellis County:		
Bemis	10,500	12,550
Miscellaneous	7,670	7,880
Kingman County	785	845
Stafford County	8,930	9,875
Greenwood County	8,000	7,950
Eldorado	7,350	7,300
Other fields	37,825	35,505
Total Kansas	181,800	187,000

Forest City Basin

ST. JOSEPH, Mo., Aug. 26.—R. L. Campbell 1 Schock, SW SE NW 20-1n-16e, at the south edge of the Falls City pool, Richardson County, Nebraska, flowed at the rate of 500 bbl. daily through 2⅞-in. tubing after acidizing with 2,000 gal. Hunton lime was topped at 2,244 ft. and penetrated 5 ft. Seven-inch casing was set on top of lime and when plug was drilled free oil appeared in the hole. It was acidized with 950 gal. and production was estimated at 30 to 40 bbl. Hole was deepened to 2,258 ft. and oil rose 500 ft. in the hole. Operators decided to acidize with 2,000 gal. and complete at that depth. Gravity of the oil is 33°, plus. Considerable gas is showing with the oil, this being rare for the Falls City area. It is the fifth producer in the pool.

Indian Territory Illuminating Oil Co.'s discovery well about 11 miles north of the Falls City pool will pump 400 to 500 bbl. of oil daily, it is reported. The well is No. 1 Schaible-Kutter, C NE SW 29-3n-16e. Hunton pay was found at 2,433-52 ft. Operators are continuing to test. Other Richardson and Nemaha County, Nebraska, wells were drilling toward or in the Hunton zone.

Dan McLaughlin 1 McLeod, C NW SW 4-10-20, Jefferson County oil discovery well in the Kansas sector of the Forest City basin, is averaging about 50 bbl. of oil daily after reacidizing. Previously it was producing about 30 bbl. daily. It found Mississippi lime at 1,470 ft., total depth 1,596 ft., and was plugged back 2 ft. to shut off water.

William Corbett et al 1 Security, CSL NW 28-11-15e, west of Topeka, Shawnee County, was reported dry in Hunton lime at 2,170 ft., total depth. Lime was topped at 2,119 ft., and oil stains found at 2,119-2,138 ft. and 2,160-70 ft. Pipe was set on top of the Hunton and when plug was drilled the hole filled with water, it is reported.

Ladd & Vincent were drilling below 1,100 ft. after completing fishing job at their No. 1 Achten, C S½ SE NW 12-4s-14e, Nemaha County, Kansas, wildcat.

In the Missouri sector, Eddington & McAlpine 1

(Continued on Page 98)

Strength plus Flexibility

Grizzly Pressure Seal Rotary Hose is a remarkable combination of steel and rubber—*strength and flexibility*. Heavily steel armored throughout its entire length, it actually embodies the full strength of this steel — *more than ample* to withstand without injury *higher pressures* than might be developed under *any drilling conditions*. Its extraordinary flexibility, obtainable only by the exclusive Grizzly method of fabrication is clearly shown by the illustration below—a 50-foot length of Grizzly 3-inch rotary hose snaked out on the shipping room floor where the adapter is to be installed and the complete unit prepared for shipment. Note there is no kink or strain at any point throughout the entire 50-foot length . . . This extraordinary *strength plus flexibility* is your assurance against hose troubles, frequent repairs and replacements, and excessive hose costs. Ask your supply dealer, or write direct for more detailed information.

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GRIZZLY PRESSURE SEAL ROTARY HOSE

By
GEORGE WEBER

Deep Wildcat North of Lisbon Shows Oil in Pettit Sand

SHREVEPORT, La., Aug. 26.—Shows in scattered wildcats in North Louisiana and East Texas border continued to attract attention during the past week. In Claiborne Parish, Louisiana, Union Producing Co. tested a show of oil in the Pettit horizon in the deep wildcat north of Lisbon, and continued drilling ahead. In Caddo Parish the J. M. Conner 1-A Williams showed salt water and shows of oil and gas in sands below 5,000 ft. and was awaiting a pumping unit at week's end.

Union Producing 1-A Meadows and others, the deep wildcat test north of the Lisbon field in Claiborne Parish, is drilling below 5,400 ft. after testing upper formations. The Pettit lime, which produces in the field to the south, was topped at 5,009 ft. and showed oil. A drill-stem test of the section failed. The Travis Peak formation was reported topped at 5,120 ft. and oil sand at 5,141-44 ft. was reported cored.

To the northwest in the Haynesville field, Ohio Oil Co.'s deep test, No. 15 Taylor, is drilling for the Smackover lime formation below 8,800 ft.

Caddo Parish Test

Caddo Parish may gain a new field as a result of the J. M. Conner 1-A Williams. Bottomed at 6,500 ft., the test was plugged back and a string of 7-in. casing set at 5,279 ft. Perforations were shot at 5,131-33 ft. and salt water and a slight show of oil and gas were tested. Cement plug was then set at 5,130 ft. and casing perforated at 5,124-26 ft., again testing salt water and a show of oil and gas. Final perforations were at 5,120-28 ft. and after acidizing with 1,500 gal., the well again tested salt water with a show of oil and gas. It is now shut down, awaiting installation of a pumping unit.

Arkansas activity remains quiet, with only seven rigs active in Smackover lime fields. A new Smackover lime wildcat was announced by Standard Oil Co. of Louisiana late in the week. It is No. 1 Longino-Goode, located in the NW SE 10-18-10, about 4 miles southwest of the Magnolia field, in Columbia County.

NORTH LOUISIANA FIRST REPORTS

Sligo—Bossier Parish

Triangle Drilling Co. 4 R. O. Roy, C SE SW 18-17-11.

Caddo—Caddo Parish

J. W. Bailey 3 Collins, 120 ft. N, 724 ft. W, SE cor. SW NE 2-20-16.
Lloyd A. Farr 7 Stiles, 1,970 ft. W, 1,350 ft. N, SE cor. 17-21-16.
J. M. Forgetson 1 Roberts, 661 ft. W, 121 ft. N, C 10-22-15.
E. E. Johnson 2 Pet. Dev. Corp., 368 ft. S, 150 ft. E, NW cor. NE SW 32-21-15.
E. O. Mitchell 1 Pickle, 265 N, 50 ft. W, SE cor. 12-20-16.
Pelham Oil Corp. 4 Bickham, 2,215 ft. W, 564 ft. S, NE cor. 28-21-15.

Olla—La Salle Parish

Arkansas Fuel Oil 1-A J. D. Harris, 664 ft. W, 607 ft. N, SE cor. SE SW 12-10-2.
Arkansas Fuel Oil 1 A. H. Hopkins, 617 ft. N, 661 ft. W, SE cor. 24-10-2.
Arkansas Fuel Oil 1 Hopkins unit, 607 ft. S, 663 ft. E, NW cor. SE 12-10-2.
Placid Oil 30 Louisiana Central, SW NE 25-10-2.
Placid Oil 31 Louisiana Central, NW SW 30-10-3.

NORTH LOUISIANA COMPLETIONS

Bellevue—Bossier Parish

T. G. Shaw, trustee 1 Mehaffey, 150 ft. S, 1,980 ft. W, NE cor. 27-10-11, dry, show gas, old T.D. 3,002 ft.

Caddo—Caddo Parish

W. C. Curry 1 Spell et al, 28-21-15, pumped 15 bbl., T.D. 1,543 ft.
Khoury & Swan 1 George, 12-20-16, 75 bbl., acidized with 4,000 gal., T.D. 1,512 ft.
T. H. Smith 1 Handschumacher, 18-21-15, 400 bbl., T.D. 1,691 ft.
Thomas & Mack 2 Burton, 1-20-16, pumping 5 bbl., T.D. 1,525 ft.
Charles Wampler 1 First Methodist Church, 12-20-16, pumping 50 bbl., T.D. 1,530 ft.

Olla—La Salle Parish

Arkansas Fuel Oil 1 W. H. Mills, 615 ft. N, 665 ft. W, C 13-10-2e, 168 bbl., 5 per cent salt water, ¼-in. choke, T.P. 140 lb., C.P. 510 lb., set 7-in. casing 2,257 ft., perf. 2,250-54 ft., T.D. 2,257 ft.
Placid Oil 24 Louisiana Central, SE NE 24-10-2, 264 bbl., 16/64-in. choke, C.P. 150 lb., T.P. 80 lb., perf. 2,258-61 ft., T.D. 2,430 ft.

Estimated Daily Production

Estimated daily gross production week ended August 24:

NORTH LOUISIANA

	Bbl.
Bellevue	465
Caddo, light	5,550
Caddo, heavy	2,140
Converse	525
Cotton Valley	*13,750
Cross Lake	3,585
De Soto and Red River	1,015
Elm Grove	315
Haynesville	2,730
Holly	75
Homer	2,835
Lisbon	4,195
Olla	2,580
Pleasant Hill	90
Rodessa	18,390
Sarepta-Carterville	†300
Sligo	2,415
Sugar Creek	10
Urania	2,475
Zwolle	1,670
Total North Louisiana	65,110
Rodessa, Texas	14,415

SOUTH ARKANSAS

Atlanta	2,560
Big Creek	105
Buckner	2,600
Champagnolle	1,165
Dorcheat	1,050
El Dorado	1,670
Fouke	200
Lewisville	550
Lisbon	220
Magnolia	21,600
McKamie	370
Miller County	350
Nevada	575
Nick Springs	540
Rodessa	1,850
Schuler	18,510
Smackover, light	1,650
Smackover, heavy	13,650
Stephens	535
Troy	1,210
Urbana	1,700
Village	1,215
Total South Arkansas	73,915

*710 bbl. is distillate. †40 bbl. is distillate.

NORTH LOUISIANA WILDCATS

Bienville Parish

Union Producing 1 Tooke unit, 100 ft. SW C SE 10-16-10w, set 13⅜-in. casing 368 ft., set casing 1,442 ft., waiting on cement.

Bossier Parish

H. M. Harrel et al 1 Porter, 1,370 ft. W, 1,276 ft. S. NE cor. 20-17-11, rigging up.
L. K. McGuffin 1 Tomlinson, 980 ft. S, 600 ft. E. C 16-18-11, S.D. 1,220 ft.
R. L. Reese et al 1 Bellevue Ld. Co., 170 ft. E, 365 ft. N. 27-20-11, fishing drill stem 3,035 ft.
R. W. Crosby E W. E. Glassell, NW SW NE 11-19-15, location.

Caddo Parish

J. M. Conner, 1-A Williams, 334 ft. N, 986 ft. W, SE cor. NE 3-15-15, set 7-in. casing 5,279 ft., perf. 5,131-33 ft., tested salt water, slight showing oil and gas, set plug 5,130 ft. and perf. 5,124-26 ft., tested salt water, show oil and gas, perf. 5,120-28 ft., acidized with 1,500 gal., tested salt water and show oil and gas.
Gehrig 1 Colored Methodist Church, 637 ft. N, 1,826 ft. E, SW cor. 35-18-14, set 5½-in. csg. 5,626 ft., perf. 5,604-14 ft., acidized and tested salt water, show oil and gas, cemented two joints blank liner on bottom, perf. 5,602-08 ft., testing.

Claiborne Parish

J. D. Caruthers, Tr. 1 Simmons unit, C N½ SW 2-20-5w, location.

Wildcat—Prairie County

Hazen 1 Fidelity Mutual Life Insurance Co., 150 ft. NE cor. NE SW 16-2n-6w.
V. A. Hardin 1 Valentine, 563 ft. E. 660 ft. S, NW cor. 31-20-6w, top Nacatoch 2,290 ft., drilling shale 4,131 ft.
Ohio 15 G. W. Taylor, Acct. 1, 100 ft. S and W, C SE 15-23-8, drilling shale and sand 8,855 ft.
Haynes B. Owenby 2 L. E. Ozley fee, 490 ft. N, 660 ft. E, SW cor. NW 33-20-5, drilling lime 4,500 ft.
Union Prod. 1-A Meadows et al, C NE 18-21-4, set 10¾-in. casing 3,591 ft., top massive anhydrite 3,762 ft., drilling 5,398 ft.
A. D. Yeary 1 J. A. Harris, 1,050 ft. E, 100 ft. N, SW cor. 17-19-6, rigging up.

De Soto Parish

R. C. Swayles 1 Jackson, 330 ft. E, 200 ft. N, SW cor. NW SW 36-12-14, set 10-in. casing 20 ft., S.D. 130 ft.
Union Prod., 1-B M. E. Garrett, 1,320 ft. N, 1,980 ft. W, SE cor. 33-12-16, drilling 1,270 ft.

Franklin Parish

J. B. White et al 1 Dailey, 1,170 ft. N, 2,490 ft. W, SE cor. 1-11-6, S.D., no show 3,016 ft.

Grant Parish

Arkansas Fuel Oil 1-B Kees, 660 ft. N, 617 ft. E, SW cor. 7-10-3, set 7-in. casing 2,257 ft.
Peterson Pet. Corp. 1 Swope, 182 ft. N, 85 ft. W, SE cor. NW SE 18-9-1e, drilled out to 1,609 ft., salt water.

La Salle Parish

O. K. Allen, Jr., et al 1 Breedlove, SW NE 32-11-3e, top Wilcox 1,600 ft., T.D. 2,540 ft., S.D.
Arkansas Fuel Oil 1-A Kees, 609 ft. N, 667 ft. E, SW cor. NE SW 7-10-3e, set 7-in. casing 2,252 ft., oil sands 2,202-04 ft. and 2,223-25 ft., reperf. 2,225-30 ft., swabbed oil and salt water, installing flow valves.
H. L. Hunt 1-A Goodpine, 100 ft. N, 220 ft. E, C SW NW 10-7-3e, drilling shale 2,510 ft.
Peterson Pet. Corp. 1 Tremont Lbr., NE SW 25-9-2e, T.D. 4,020 ft., perf. 3,160-63 ft., tested est. 10,000,000 cu. ft. gas, rock pressure 1,325 lb., killed well and perf. 3,036-39 ft., flowing est. 7 bbl. per hr., ¼-in. choke, 30 per cent salt water, T.P. 350 lb., C.P. 1,200 lb., 33.1 gravity, killed, squeezed and will retest.

Red River Parish

Thornton & La Croix 1 Prudential Life Insurance Co., 2,160 ft. S, 440 ft. E, NW cor. 31-11-9, topped Nacatoch sand 1,190 ft., fishing drill stem 1,317 ft.

Sabine Parish

Shell 1 Pickering Lumber Co., NE SW 30-4-12, drilling 7,810 ft.

Union Parish

Tiki Exploration Co. 1 Jones, 980 ft. NE cor. 30-21-3w, S.D. 3,200 ft.

Webster Parish

Hunt Oil 1 Crawford et al, SE cor. NW SE 30-21-10, set 13⅜-in. casing 615 ft. (cor.), set 9⅝-in. casing 5,622 ft., drilling shale and lime 6,843 ft.
Hunt Oil 2 Jordan, 250 ft. NE, C SW NE 31-21-10, rigging up.
Magnolia 1 G. Wadley, 440 ft. S, 940 ft. E, NW cor. NE 18-21-9, drilling shale and lime 4,930 ft.
Midstate Oil 1 Giddens unit, 282 ft. N and W, C SW NE 30-21-9, Bodcaw sand 8,649 ft., oil, set 7-in. casing 8,678 ft., T.D. 8,680 ft., perf. 8,649-63 ft., tested salt water, squeezed and reperf.

ARKANSAS FIRST REPORTS

Wildcat—Columbia County

Standard of Louisiana 1 Longino & Goode, NW SE 10-18-10.

ARKANSAS COMPLETIONS

Wildcat—Clark County

J. H. Coker and J. P. Grieves 1 C. McClellan, NW NW SE 11-20-21, dry, T.D. 1,603 ft.
W. S. King 1 N. Ross, 640 ft. S, 359 ft. W, NE cor. S½ SW 3-10-21, lost 500 ft. drill stem, junked and abandoned, T.D. 2,607 ft.
W. P. Wilson 1 Hamilton & Mathews, SW NW 32-10s-20w, temporarily abandoned, T.D. 1,622 ft.

Lewisville—Lafayette County

East Texas Refining 2 Bodcaw Lumber Co., 530 ft. S, 660 ft. E, NW cor. NE NE 19-16-23, pumping 30 bbl., 40 per cent water, T.D. 3,451 ft.

Atlanta—Columbia County

Tide Water Associated and Seaboard 3 J. T. Beene, SW NE 15-18-19, location abandoned.

Wildcat—Nevada County

Velma Oil 1 T. M. Bemis, 330 ft. NW cor. NW NE 23-10s-22w, location abandoned.

Smackover—Ouachita County

Sam Richardson 2 B. Goodwin, NE SW SW 32-15-15, pumping 60 bbl. oil, 5 bbl. salt water, T.D. 3,210 ft.

Urbana—Union County

McCreslen 3 A. Hadley, 250 ft. N, 200 ft. W, SE cor. NE SW 3-18-13, pumping 150 bbl., 50 per cent salt water, T.D. 3,585 ft.

ARKANSAS WILDCATS

Columbia County

Berkshire 1 H. C. Couch, C N 30 ac., SE SE 22-17-20, drilling red sandy shale 7,101 ft.
G. S. Hammond et al, 1 S. T. Crone, SE SW 9-16-22, drilling red shale 7,137 ft.
Lion 1 G. J. Dickens, C NE NW 16-18-22, set 16-in. casing 270 ft., waiting on cement 300 ft.
McAlester Fuel 1 K. J. Sayers, NW NE 15-18-22, drilling red sandy shale 6,544 ft.
Normandie-Goldston 1 C. E. Crumpler, C S 30 ac., SE SE 18-17-19, drilling red sandy shale 6,273 ft.
Placid Oil 2-B J. W. Booth, SW SW 20-17-19, set 9⅝-in. casing 2,195 ft., 5½-in. casing 7,670 ft., waiting on cement.

Dallas County

H. H. McBride et al 1 Southern Kraft Corp., SE SW 16-9-16, drilling sandy shale 255 ft.

(Continued on Page 93)

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Among the Drilling

J. C. HUNTER, independent operator and drilling contractor in West Central Texas, Abilene, has received contract from Iron Mountain Oil Co. for the drilling of a new Palo Pinto lime test in the Nowles field of extreme southern Haskell County, West Central Texas. The location is No. 1 Strand, SW SW Section 5, Block 5, H.&T.C. Survey, about ½ mile south of the recently completed mile extension into northern Jones County.

UNION Drilling & Producing Co. was awarded contract for drilling Sun Oil Co. 1 Fisk R. McGregor et al, an east offset to the operator's No. 1 McKenna which opened a new field in Hamilton Township, Clare County, Michigan. Location of the new test, which was spudded late last week, is C S½ SE SE Section 15. Production from the No. 1 McKenna late last week had declined to around 215 bbl. daily and operators pulled rods and tubing with intention of gravel packing the hole.

OSAGE Drilling Co., San Antonio, Tex., has completed its No. 1 Ferdinand Moore to extend the Duggan field of Cochran County, West Texas, 1¼ miles to the east. The extensioner was completed for 442 bbl. of oil daily after acid treatment with 9,500 gal. at a total depth of 5,042 ft. The well is located on farmout acreage from Cascade Petroleum Co. of Fort Worth, and is in the southwest corner of the 769-acre Moore tract in League 53, Oldham County School Land.

HOUSH & THOMPSON, Houston, Tex., received contract from Pan American Production Co. for a projected 8,100-ft. test located in the Markham area, Matagorda County, Texas. The well is located on the R. J. Sick lease in the David Etherton Survey. Five other operations are reported for Sun Oil Co., Gulf Oil Corp. and Harrison & Abercrombie at the Greens Lake, Eola, Hackberry and Hull fields and a wildcat in San Jacinto County.

PATRICK & TYRELL Drilling Co., Houston, Tex., chalked up another producer for the Texas Co. at the Golden Meadow field, La Fourche Parish, coastal Louisiana, and the rig has been moved to a new location.

GEORGE P. LIVERMORE, Inc., of Odessa, Tex., has been awarded contract for a 4,500-ft. wildcat to be drilled by Sloan & Zook in southeast Dawson County, West Texas. The test is the company's No. 1 J. L. Sypert, 330 ft. from the south and east lines of Section 22, Block 34, T.&P. Survey. The test is 2¼ miles southeast of the Ray Albaugh 1 Hogg, 4,222-ft. dry hole, and 8 miles east and 2 miles south of the Magnolia Petroleum Co. 1 Fry, a failure at 5,258 ft.

TWIN Drilling Co. has been awarded contract for drilling Sun Oil Co. 1 Oxidermo Products Co., an extension test 1 mile southwest of the operator's McKenna discovery in Hamilton Township, Clare County, Michigan. Location of the test is N½ NE NW Section 28.

GRACE-WOODS Drilling Co., Wichita Falls, Tex., has been let contract for two 4,000-ft. wells in a recently opened field in Young County, North Texas. They will be drilled for A. T. Strong and associates on the Allen and the Eddleman tracts about 2 miles east of Graham. Both are offsets to the A. T. Strong 1 Craig, which opened a new Marble Falls producing spot 2 weeks ago when it flowed 2,021 bbl. in 8 hours through 2-in. tubing into storage.

LOFFLAND BROTHERS, Houston, Tex., have reached a depth of 11,400 ft. in Superior 1 State, located on the Calcasieu Lake dome, Calcasieu Parish, coastal Louisiana. Another rig is running for the Continental Oil Co. at the South Roanoke field, Jefferson Davis Parish.

TAUBERT, McKEE & SIEMONEIT Drilling Co., Fort Worth, Tex., will start this week on a deep test for Nelson Oil Syndicate in the Birdwell lands of extreme western Jack County, Texas. The area was opened to production last year by Nelson Oil Syndicate's first test on the Birdwell land. the new location being an east offset. It is in the T. B. Riddle Survey and is contracted to 4,000 ft.

EMMETT VEEDER, Cherryvale, Kans., contractor, is moving rig from DeKalb County, Missouri, where he drilled a dry hole at E. H. Lawhon 1 Gottschall, 18-59n-32w, to a location near Lawrence, Douglas County, Kansas, where he has contract to drill two wells.

ROWAN Drilling Co., Houston, Tex., received contract from Hebert & Smith for No. 1 Yount, which will be drilled about 1½ miles southwest of the West Beaumont field, Jefferson County, Texas. In the Rowan field, and located about 1,200 ft. northeast of their No. 1 Hubbard, the dis-

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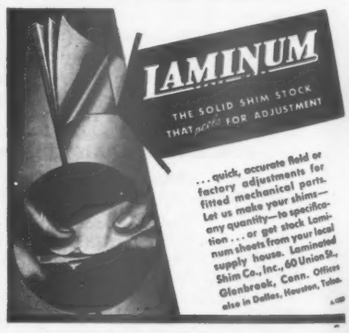
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covery well, No. 2 Hubbard is drilling below 8,600 ft. after encountering the discovery pay about flat with the discovery well. The well is drilling deeper in search of a deeper sand.

PORTABLE Drilling Co., Tulsa, completed a Hunton lime producer west of Stillwater, Payne County, Oklahoma, at Elson et al 1 Murphy, SE SE NW 20-18-2e, the well flowing 624 bbl. daily through ½-in. choke from pay topped at 4,550 ft. Hole originally was drilled to 4,871 ft. in Wilcox sand and plugged back.

GRAY & WOLFE, Houston, Tex., started drilling on an interesting operation offshore from Jefferson County, Texas, in the Gulf of Mexico. The well is being drilled for the Merrimac Oil Co., and is located in State Tract 72.

MANNING & MARTIN, drilling contractors of Denver, Colo., are using a diesel-electric rig and a 164-ft. derrick at the Texas Co. 1 Unit on the Absaroka structure in southern Montana. Located in C SE NW 10-4s-19e, Stillwater County, in the center of a 10,000-acre unit, the wildcat at last reports was drilling below 1,235 ft.

HELMERICH & PAYNE, INC., Tulsa contracting and operating firm, built derrick and was moving in tools for a test at Ohio Oil Co. et al 2 State, SW NE SW 16-28-1w, in an extension area of the Braman pool, Kay County, Oklahoma.

ALLEN & MORRIS, of San Antonio, Tex., started drilling operations on a wildcat in Jackson County, Texas, for the Darby Petroleum Co. Drilling was started on another test in La Rosa field, Refugio County, for Shield Oil Co. Two other operations are reported in the Orange Grove and Agua Dulce fields for T. H. McElvain and Agua Dulce Oil Co.

CHRISTIAN-CARPENTER Drilling Co., Houston, Tex., is rigging up for a new test in the Ogburn field, Harris County, Texas. The well is being drilled jointly with Joyce Richardson, and is located on the Rorick lease about 3,200 ft. southwest of the discovery well.

CROW Drilling Co., Wichita, Kans., has started work at Derby Oil Co. 1 Thom, C SE SE 10-32-12w, wildcat 4 miles southwest of the Whelan pool in Barber County, Kansas. Location is on an acreage farmed out by Skelly Oil Co. The Carter, Transwestern and I. T. I. O. companies are supporting the test.

J. W. FRAZIER, Houston, Tex., opened gas production in the old Mount Houston prospect, Harris County, Texas, with the completion of his No. 4 Griffith, completed as a small gasser in sand at 3,482-85 ft.

McDANNALD Oil Co., Houston, Tex., has one rig running in the Old Ocean field, Brazoria County, Texas, for Stanolind Oil & Gas Co., and will move a rotary to the Magnet field, Wharton County, for its own operation.

Day-tour crew on deep wildcat test being drilled by Hamman Oil & Refining Co. near Vinton, Calcasieu Parish, Louisiana Gulf Coast. The men are: P. A. Lankard, driller; L. J. Schmershal, cathead man; J. E. Hammond, derrickman; A. Luce and Tom Rogers, floormen

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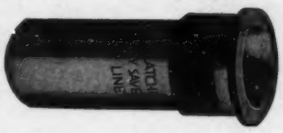

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By
R. MARNE SANFORD

Intensive Wildcatting in Fort Worth Basin Getting Results

WICHITA FALLS, Tex., Aug. 26.—The leasing campaign throughout Montague, Clay and Wise counties last winter appears to have been justified and a wildcat test in southwestern Montague County and one in northern Wise County both drilled encouraging shows of oil as the week closed.

Hults & Owens 1 Tucker, located in Block 2835, T.E.&L. Survey, south of the Seay field in Montague County, drilled two sections showing oil, both of which were believed capable of yielding commercial production. With the wildcat shut down for repairs at the close of the week, shows of oil had been drilled from 5,020-34 ft. and from 5,210-26 ft. Neither show was tested for the operation will continue to its total depth of 7,500 ft. before testing possible producing zones. This wildcat is several miles north of Gant 1 Laird, Millard Survey, 7 miles west of Sunset in extreme southern Montague County, which has indicated production from several zones.

In northern Wise County and just 1½ miles northwest of Park Springs, Cranfill & Rogers 1 McKay, projected 7,500-ft. test in Section 8, Falls County School Lands Survey, drilled shows of oil from 4,173-75 ft. At this point a core was taken to a depth of 4,180½ ft. which recovered only shale and dry sand. It is drilling ahead below this depth.

New Montague Tests

One new wildcat location was staked in Montague County and one operation was being carried deeper as an exploratory hole. The location is Seitz, Comegys & Seitz 1 R. W. Harris, 467 ft. from the southeast and southwest lines of NE¼ S½ B.B.B.&C. Survey, Abstract 88, ¾ mile southwest of Hardy. It is in the southeast part of the county.

In the Seay field, British American Oil 2 Martin, a north-edge test, after missing the discovery horizon, was carried deeper as an exploratory hole. The top of the Ordovician section was logged at 5,860 ft. It is not definitely known whether the dolomite section topped at 5,860 ft. is the Simpson or Ellenburger series of the Ordovician. The test was last reported drilling below 5,921 ft.

Definitely opening the new and deeper producing horizon for the Seay field, Fain-McGaha 1 Spring has been officially gaged for the largest well in the field. Located as a northwest offset to the original discovery well, the new horizon opener was gaged at 430 bbl. of oil in 3 hours, flowing through ½-in. choke. Production is from 5,789-94 ft., about 90 ft. below the regular pay of the field.

Clay County

Offering more than fair chances of opening a new deep field in western Clay County, casing was being run at the close of the week in the Horton & Wiggins 1 Howard, located in Block 31, T. J. Belcher Survey, 2 miles southeast of Halsell. The wildcat has been plugged back to 5,495 ft. and 6-in. casing will be cemented at 5,000 ft. for testing a section in the upper Caddo from 5,460-95 ft.

The Ross field in western Clay County, one of the deep fields opened last summer, has been given a ½-mile west outpost. The field is composed of three producers, all owned by Continental Oil Co. The outpost is Petroleum Production 1 Ross, ½ mile west of the discovery well. Meanwhile Continental 2 Ross, the fourth well in the field, was drilling below 5,117 ft. and expecting to encounter the 5,350-ft. pay section early this week.

New Wildcats

In western Wilbarger County a new 4,000-ft. wildcat operation has been staked by Charles Barnes in the NE cor. Section 97, Block 14, H.&T.C. Survey, 5 miles southwest of Vernon. It is on a 2,000-acre block and scheduled to start by November 1.

Archer County was given a new deep operation when Shell Oil Co., Inc., announced location for its No. 1 W. M. Coleman, NE cor. Lot 3, Block 74, A.T.N. C.L. Survey, about 5 miles north of Scotland in the eastern part of the county. It is 7 miles southeast of the Hull-Silk field.

NORTH TEXAS COMPLETIONS
(24-hour gages)

Archer County

Hull-Silk field: Continental 19 Wilson, 848 bbl., 4,310-80 ft.
Ligon 7 White, 10 bbl., 461-70 ft.
Olney field: Burns 5 National Bank, 10 bbl., 1,465-76 ft.

Baylor County

Wildcat: Egger 1 Portwood, dry, T.D. 1,462 ft.

Clay County

Thornberry field: Akin, Dimock & Costley 1 Edrington, dry, T.D. 1,247 ft.
Cunningham 2 State, dry, T.D. 1,147 ft.
Mundt & Keenam 1 Hansard, dry, T.D. 409 ft.

Cooke County

Walnut Bend field: Magnolia 8 Ransey, 605 bbl., 4,788-4,815 ft.

Jack County

Wildcat: Collie 1 Crowley, dry, T.D. 470 ft.

Montague County

Seay field: Gulf 1 Worsham, 794 bbl., 5,643-5,702 ft.

Wichita County

K.M.A. field: Bishop Oil 4 Waggoner, 225 bbl., 3,763-97 ft.
Hanlon-Buchanan 14 Fassett-Tuttle, 372 bbl., 4,051-82 ft.
Hanlon-Buchanan 18 Fassett-Tuttle, 561 bbl., 4,040-78 ft.
Electra field: Davis Oil 7 Jones, 10 bbl., 610-16 ft.
Burkburnett field: Beavers 1 Martin, dry, T.D. 1,452 ft.

Wilbarger County

South Vernon field: Lutz 1 Streit, 51 bbl., 1,430-72 ft.

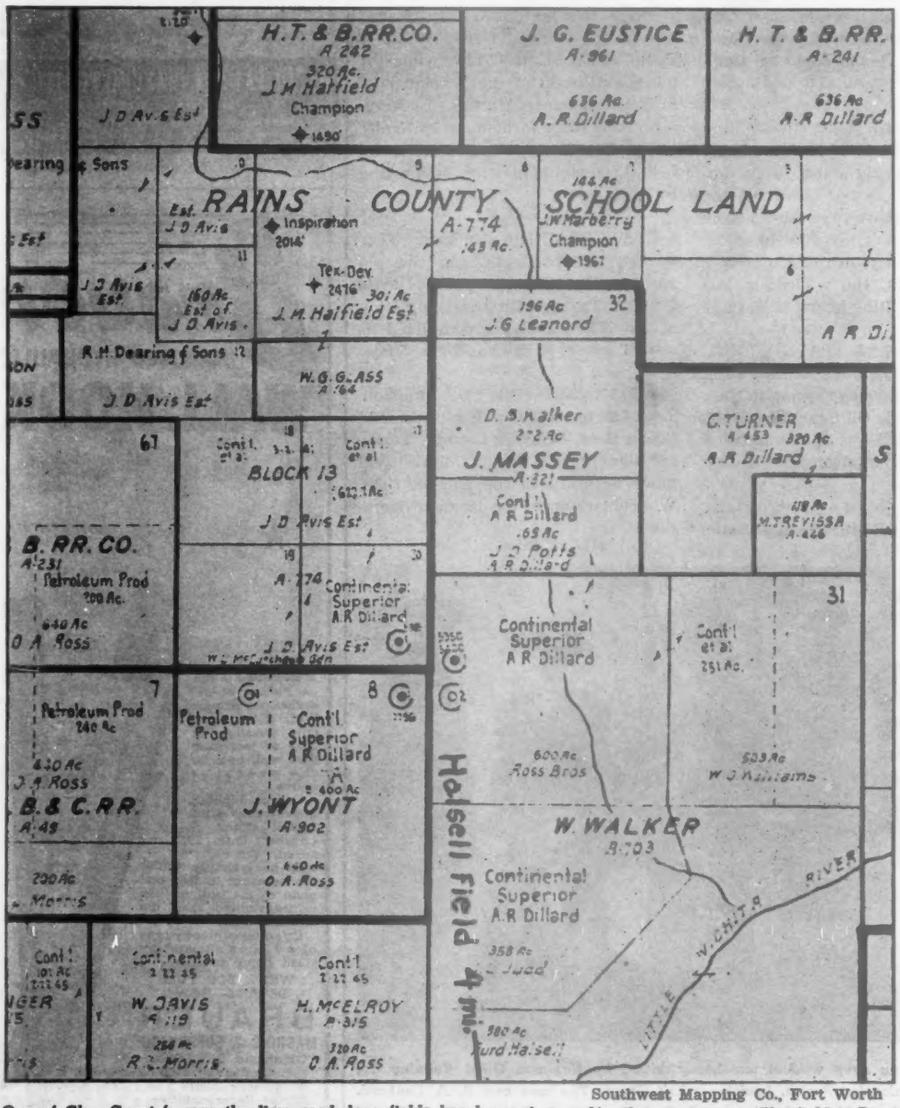
Young County

Graham field: A. T. Strong 1 Craig, 1,900 bbl., 4,239-44 ft.
Markley field: King 6 Dailey, 6 bbl., 542-76 ft.

NORTH TEXAS WILDCATS

Archer County

Paul Steed 1 Prideaux, Sec. 1807, T.E.&L. Sur., T.D. 4,313 ft., S.D. and may abandon.
Clark 1 Goldsmith, Blk. 6, S.A.R. Sur., fishing drill pipe 4,974 ft.



Southwest Mapping Co., Fort Worth

One of Clay County's recently discovered deep fields has been given a ½-mile-west outpost. The field is Ross, opened last year by Continental Oil Co. in the western part of the county

British American 1 Wilson, Sec. 2, B.B.B.&C. Sur., set 10-in. casing at 106 ft.

Baylor County

Roy Carter 1 S. G. Farmer, Sec. 3126, T.E.&L. Sur., drilling 2,920 ft.
Texas Co. 1 Clements, Sec. 3145, T.E.&L. Sur., drilling 822 ft.

Clay County

L. T. Burns 1 Calloway, Lot 9, Hopkins Co. School Lands Sur., Abst. 176, T.D. 5,356 ft., new contract depth 6,000 ft., rigging up.
Frabor-Hodges 2 Kinder, Lot 17, Blk. 2, Clark & Plumb Sur., drilling 500 ft.
Horton & Wiggins 1 W. J. Howard, Blk. 31, T. J. Belcher Sur., drilled saturation 5,460-81 ft., drill-stem test showed 40 ft. oil-cut mud, T.D. 5,495 ft., P.B. to 5,000 ft. to set 8-in. casing and test.
Roberts, Lynch & Jones 1 Edwards, Blk. 40, Madison County School Lands Sur., 6,500-ft. test, drilling 2,631 ft.
Carlos Wagner 1 Thaston, Sec. 4, T.&N.O. Sur., 5,000-ft. test, drilling 3,374 ft.

Denton County

Amon G. Carter 1 W. P. and A. P. Allen, S. Westbrook Sur., S.D. 4,000 ft.
Harvey Bros. 1 Knox, R. Howard Sur., Abst. 542, old T.D. 1,357 ft., show oil 1,467-93 ft., set 6⅝-in. at 1,465 ft.

Hardeman County

Norris & Gilbert 1 Robert Weekley, SW SE Sec. 87, Blk. 16, H.&T.C. Sur., show oil in lime 3,810 ft., drilling 3,870 ft.

Jack County

R. A. Conkling 1 M. Hoofle, A. James Sur., Abst. 318, 3 mi. S Antelope, 3,500-ft. test, drilling 2,292 ft. (corrected).
Continental 1 Robertson, M. J. Swan Sur., Abst. 1650, T.D. 3,200 ft., preparing to abandon.
Rathke Oil 1 Moseley, J. Harrison Sur., Abst. 259, 12½-in. set at 894 ft., 10-in. set at 1,218 ft., drilling 1,275 ft.

Montague County

Walter Gant 1 Will Laird, R. T. Millard Sur., Abst. 470, 7 mi. W of Sunset, slight show oil 4,857-77 ft., cored conglomerate, show oil 5,650-61 ft., drilling 6,503 ft.
Hults & Owen 1 Tucker, NW cor. Sec. 2836, T.E.&L. Sur., slight show of oil 5,020-34 ft. and 5,210-26 ft., S.D. 5,557 ft.
W. H. Peckham 1 Dr. Lawson, N. Kimbro Sur., Abst. 405, T.D. 6,113 ft., test showed only mud, S.D.
A. R. Dillard 1 Holland, M. Montalba Sur., 10-in. set at 375 ft., drilling 3,950 ft.

Throckmorton County

Normandie Oil Corp. 1 Travis, Sec. 37, Travis C.S.L. Sur., drilling 4,360 ft.

Wilbarger County

Herbert Oil Co. 1 S. B. Peters, Sec. 1, B.B.B.&C. Sur., drilling 4,185 ft.

Wise County

Cranfield & Rogers 1 McKay, Sec. 8, Falls County School Lands Sur., 7,500-ft. test, slight show of oil 4,173-75 ft., drilling below 4,180 ft.

WEST CENTRAL TEXAS

FORT WORTH, Tex., Aug. 26.—The discovery of a new shallow field in the south Shackelford and north Callahan County wildcat area, together with completion of the deep-level discovery in Stephens County's Stribling field, drew attention at the close of the week in the West Central Texas district.

The new field discovery is L. H. Choate 1 J. F. Dyer, located in SW cor. NE¼ Section 74, Block 12, T.&P. Survey, about 2 miles northwest of the Lones field. The test pumped on gage 36 bbl. of oil daily from a saturated sand drilled from 1,177-85 ft. The discovery is the second test in the immediate area to seek production, the Fortex Oil 1 Dyer having been dry at 1,244 ft.

Seeking production from the Palo Pinto lime horizon in northwest Shackelford County, Kittery Oil 1 T. G. Hendrick, A.B.&M. Survey, 4 miles northeast of the Ivy field, has set casing at 1,350 ft. preparatory to drilling into the Cisco series. The Palo Pinto lime is found at about 3,100 ft. and is the lowest member of the Canyon series immediately below the Cisco series.

In the center of the Stribling field of Stephens County, Horowitz & Oldom 4 Maury, the deep Mississippian lime discovery of 2 weeks ago, was completed at the close of the week for a daily potential of 597 bbl., flowing. The test was given a 38-bbl. daily allowable by the Railroad Commission.

On the county line between Haskell and Jones counties, a new outpost test is starting in the area opened several months ago by K. B. Nowels. The discovery well was drilled by Nowels as his No. 1 Pardue, southern part of Section 1, S.F.&I.W. Survey. Several months following this completion J. C. Hunter completed his No. 1 Bettis, NE part Section 2, about a mile southwest of the discovery, for an extension to the field. The new operation is Iron Mountain Oil 1 Strand, located in extreme SW cor. Section 5, Block 5, H.&T.C. Survey, ⅜ mile south of the Hunter extension well.

(Continued on Page 98)

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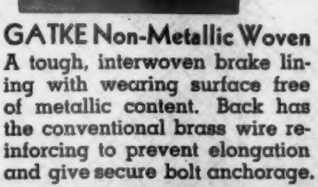

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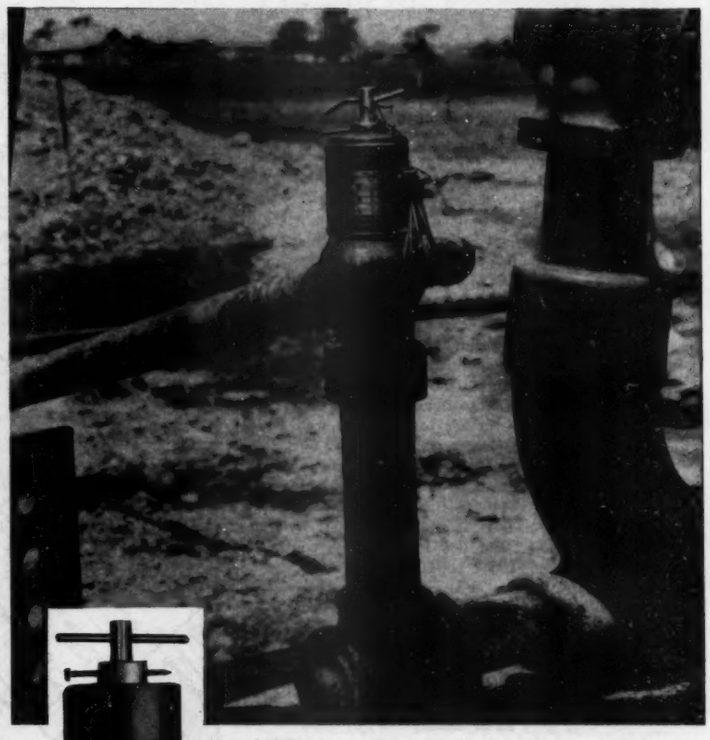

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SHEAR-RELIEF VALVE

By

R. MARNE SANFORD

Outpost Started in Delaware Gas Field in Ward County

MIDLAND, Tex., Aug. 26.—Indications of development for Ward County's recently discovered Delaware gas field were seen at the close of the week when the discovery operators staked location for a 1¼-mile southeast outpost to the discovery well. The location falls in the SE cor. NE Section 145, Block 34, H.&T.C. Survey, 2½ miles northeast of Quito. The discovery well for the area, Kenneth Slack, J. E. Fitzpatrick, and Merry Brothers & Perini 1 Byrd Hayes, was completed for 20,000,000 cu. ft. of gas daily together with about 40 bbl. of oil. The pay section was topped at 5,043 ft., the top of the Delaware sand, and drilled to a total depth of 5,100 ft.

About a mile southeast of the new location is the original discovery well of the area. It was completed for 133 bbl. daily from the 5,100-ft. level several years ago but has since been plugged. This is one of the few Delaware producing fields in West Texas and offers indications of opening a play for production from that level along the extreme western rim of the Permian basin platform which embraces so many Permian lime fields.

A new outpost to the North Goldsmith field opened several months ago northwest of the Goldsmith field in Ector County has been staked. It is Magnolia 1 Cowden, SW SE Section 9, Block 45, Township 2n, T.&P. Survey. The site falls about ½ mile northwest of the Grisham 1 Cowden, discovery well, which was completed for 284 bbl. daily to open the field.

A possible discovery well in western Crockett County was being prepared for testing as the week closed. It was M. & M. Drilling Co. 1 Bouscaren, 1 mile north of the discovery well in the Soma field opened several months ago. Originally started as an outpost to this field, the test drilled below the discovery horizon and encountered shows of oil and gas from 1,552-55 ft. Gas believed coming from about 1,512 ft. caused the well to blow wild for about 20 hours at the rate of 40,000,000 cu. ft. of gas daily. It was brought under control and shut in for further testing. The well is located in Section 29, Block G.G., H.E.&W.T. Survey.

Pecos County's Apco field which is producing from the Ellenburger of Lower Ordovician age was given a north outpost when Humble Oil & Refining Co. staked its No. 1 W. T. Shearer. The site falls 2,001 ft. from the southwest lines and 668 ft. from the southeast lines of Section 99, Block 10, H.&G.N. Survey.

SOUTHERN WEST TEXAS COMPLETIONS

(24-hour gages)

Crane County

Jordan field: Gulf 3-N State, 4,904 bbl., 3,526-3,600 ft.

Crockett County

Soma field: Finance Oil 1 Hoover, abandoned location.

Ector County

North Cowden field: Atlantic 14 Henderson, 1,167 bbl., 4,054-4,245 ft.
Atlantic 1 Pegues, 1,461 bbl., 4,010-4,200 ft.
Humble 6-B Henderson, 957 bbl., 3,970-4,196 ft.
Midland Drilling Co., 7 Henderson, 1,962 bbl., 4,030-4,240 ft.
Johnson field: I. T. I. O. 3-D Johnson, 1,030 bbl., 4,050-4,147 ft.
Sinclair Prairie 3-B Johnson, 601 bbl., 4,056-4,153 ft.
Goldsmith field: Phillips-Pure 101 Cowden, 1,539 bbl., 4,097-4,152 ft.

Pecos County

Tobarg field: A. J. Rife 36 Tippett, 8½ bbl., 405-22 ft.

Upton County

McCamey field: Continental 13 Burieson, 47 bbl., 2,130-2,200 ft., old well drilling deeper.

Ward County

Wildcat: Gulf 141 O'Brien, dry at 3,578 ft.
North Ward field: Brandor Pet. 4 Brander.burg, 185 bbl., 2,036-90 ft.
Sealy field: Mid-Continent 9 Sealy, 188 bbl., 3,061-63 ft.

Winkler County

Keystone field: Falcon Oil 4-A McCutcheon, 195 bbl., 3,285-3,672 ft.
Sealy field: Gulf 140 O'Brien, 160 bbl., 2,588-2,765 ft.

WILDCAT OPERATIONS

Crane County

Gulf 1-F University, SE SE Sec. 22, Blk. 31, University Sur., drilling 4,051 ft.

Crockett County

Moore Exploration and Olson Drilling 1 Couch, W. S. Piggs Sur., location.

Hudspeth County

Haymon Krupp 1 Briggs, Sec. 24, Blk. 73, Twp. 7, T.&P. Sur., 5½-in. casing cemented at 6,202 ft., T.D. 6,224 ft.

Pecos County

Plymouth 1 Richard Levy, SW cor. Sec. 104, Blk. 8, H.&G.N. Sur., drilling 6,473 ft.
Tauber, McKee & Siemoneit 1 Crockett, SW Sec. 4½, Blk. 3, H.&T.C. Sur., drilling 2,735 ft.

Presidio County

Wilcox 1 Conring, Sec. 102, Blk. 4, H.&T.C. Sur., drilling 790 ft.
Wilcox 2 Jones-Coffield, Sec. 38, Blk. 34, H.&T.C. Sur., P.B. to 2,369 ft. from 2,399 ft., S.D.

Sutton County

Domain 1 G. S. Allison, SW NE Sec. 91, Blk. 9, T.W. &N.G. Sur., Ellenburger lime test, S.D. 1,088 ft.

Upton County

J. F. Slaughter 1 Porter, Sec. 184, Blk. E, C.C.S.D.& R.G.N.G. Sur., location.

Ward County

Fitz Patrick & Slack 1 Wilson, Sec. 145, Blk. 34, H.& T.C. Sur., 1¼ mi. SE of discovery gas well, first report.
Gulf 5 Wristen, Sec. 13, Blk. 5, H.&T.C. Sur., scheduled Ordovician test, coring below 9,169 ft.
Sinclair Prairie 1 Wirt Davis, 330 ft. NW, 2,310 ft. SW lines, Sec. 32, Blk. 4, H.&T.C. Sur., 3,500-ft. test, drilled saturation 2,355-75 ft., set casing 2,375 ft., drilling 2,553 ft.

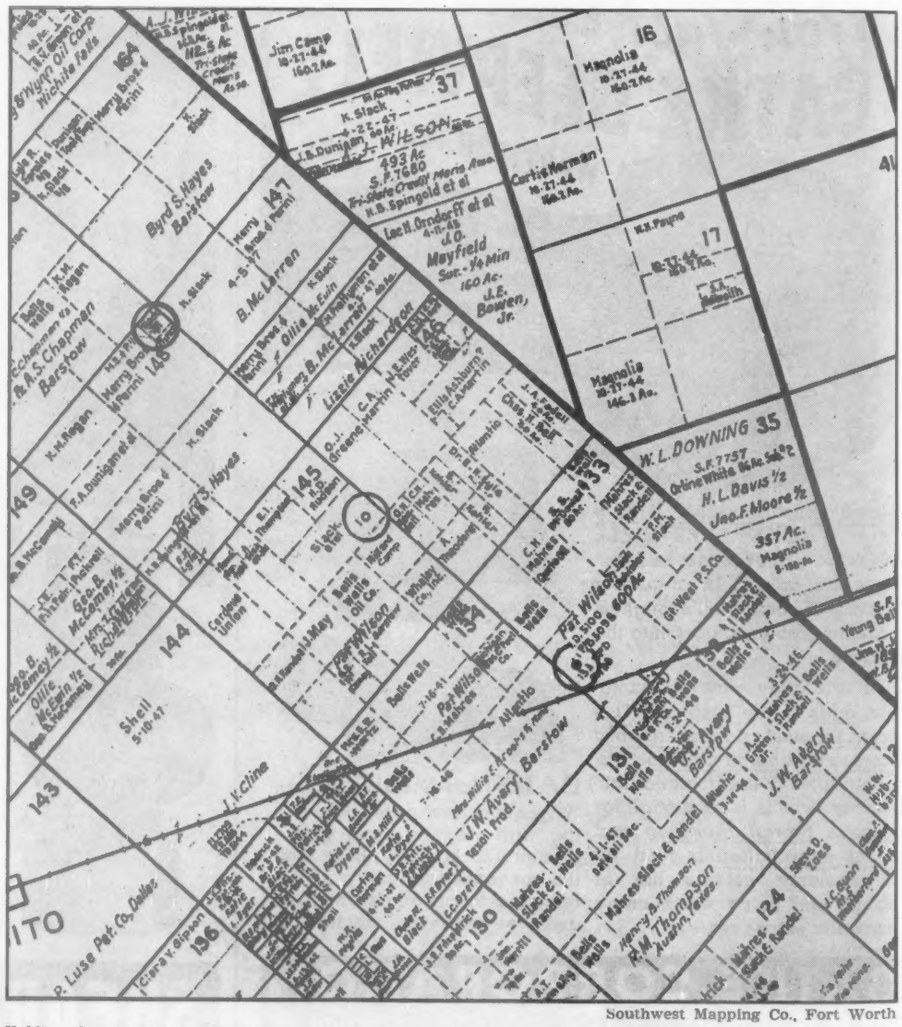
Winkler County

Gulf 136 O'Brien, SE SW Sec. 11, Blk. F, G.&M.M.B. &A. Sur., water at T.D. 3,187 ft., P.B. to 2,970 ft., pumped 39 bbl. oil with no water in 24 hr., still testing.

NORTHERN WEST TEXAS

Encouraging the possibilities of extending the Bennett area of the large Wasson field in Gaines and Yoakum counties farther to the northwest, a wildcat outpost to the area encountered shows of oil below 5,200 ft. and was testing as the week closed. It is Sloan & Zook and T. N. Sloan 1 Waples-Platter, Section 565, Gibson Survey. The test is located ¾ mile north of the outpost which opened production in the Waples-Platter sector of the large field. The new outpost drilled shows of oil from 5,220 to 5,230 ft. and after being shut down for 2 hours bailed about a gallon of free oil. In deepening the wildcat found increases of oil from 5,260-66 ft. which netted a bailer of free oil in an hour. It was being deepened as the week closed.

Dawson County, the scene of a new wildcat location about 3 weeks ago by Magnolia Petroleum Co., has been given another exploratory test, Sloan & Zook 1 J. L. Sypert, located 330 ft. from the south and east



Southwest Mapping Co., Fort Worth

Holding the attention in Ward County during the past week was the staking of a 1¼-mile-southwest outpost to the recently completed gas discovery by Slack & Fitzpatrick

lines of Section 22, Block 34, Township 4n, T.&P. Survey. The contract depth is 4,500 ft. and contract has been let for immediate drilling.

NORTHERN WEST TEXAS COMPLETIONS

(24-hour gages)

Andrews County

Ella field: Atlantic 1-2 University, 139 bbl., 4,250-4,390 ft.
Means field: Humble 16 Means, 520 bbl., 4,480-4,550 ft.

Gaines County

Wasson field: A. G. Carter 3-D Wasson, 1,314 bbl., 4,900-5,045 ft.
Seminole field: Amerada 1 Tippett, 586 bbl., 5,182-5,290 ft.
Humble 1-B Blackmore, 671 bbl., 5,160-5,350 ft.
Magnolia 11-265 H.&J., 605 bbl., 5,105-5,265 ft.
Osage 1 Brand, 475 bbl., 5,120-5,321 ft.

Scurry County

Sharon field: Mudge Oil 3 Holcomb, 61 bbl., 2,254-2,490 ft.

Terry County

Slaughter field: Western States 4 Frazier, 1,783 bbl., 4,975-5,021 ft.

Yoakum County

Wasson field: Aloco 8-C William, 1,189 bbl., 4,940-5,207 ft.
Humble 31 Wooten, 998 bbl., 4,915-5,110 ft.
Shell 12-D Baumgart, 1,930 bbl., 4,875-5,176 ft.

WILDCAT OPERATIONS

Andrews County

Phillips 1 Embar, 60 ft. from south line, Sec. 31, Blk. 10, University Lands Sur., drilling 3,420 ft.
Texas Pacific 1-A Midland Farms, NE NW Sec. 1, Blk. 40, Twp. 1n, T.&P. Sur., 5,000-ft. test, T.D. 4,873½ ft., P.B. to 4,853 ft., bailing hole preparatory to testing water shutoff.

Brewster County

J. W. Quinn, trustee 1 S. L. Strumburg, NW cor. SE Sec. 70, Blk. G, M.K.&T.E. Sur., 2,500-ft. test, 10-in. casing 990 ft., no report.

Dawson County

Sloan & Zook 1 Sypert, SE SE Sec. 22, Blk. 34, Twp. 4n, T.&P. Sur., first report.

Howard County

C. T. McLaughlin 1 Pete Johnson, NE NE Sec. 34, Blk. 32, Twp. 1n, T.&P. Sur., S.D. 3,573 ft.

Stonewall County

Shell 1 J. D. Patterson, SW NW Sec. 393, Blk. D, H.&T.C. Sur., Ordovician test, drilling 5,010 ft.

Yoakum County

Sloan & Zook 1 Waples-Platter, Sec. 565, Blk. 4, Gibson Sur., top Brown lime at 4,340 ft., slight show oil 5,240-60 ft., drilling ahead.
Magnolia 1 Sandidge, NE SW Sec. 110, Blk. M, E.L.& R.R. Sur., first report.

TRUSTEE'S SALE

IN THE DISTRICT COURT OF THE UNITED STATES
FOR THE EASTERN DISTRICT OF TEXAS *TYLER DIVISION*
IN THE MATTER OF:
TRAPSHOOTER REILLY OIL & ROYALTIES COMPANY.
No. 3368—IN BANKRUPTCY

The undersigned, as Trustee in the above styled and numbered proceeding, and in accordance with Paragraph III of the Plan of Re-organization, is authorized to sell to the highest bidder the following described leasehold interest in

Wells Nos. 2-5-8 and 10 located on the Eddie Mitchell, et al 6.2 acre lease in the John S. Carruthers and the Mary VanWinkle Surveys, in Gregg County, Texas, all of said wells being flowing wells, and in the heart of the "Fairway" of the East Texas Oil Field, and all carrying a ⅞ working interest.

The Trustee will receive bids at his office in Kilgore, Texas, on or before September 10, 1940. Any sale must be subject to confirmation by the Court of jurisdiction.

This property must be sold for cash, and no commission on the sale can be paid by the Trustee. The Trustee reserves the right to reject any or all bids.

TRAPSHOOTER REILLY OIL & ROYALTIES CO.
By Hugh E. Exum, Trustee.

SOUTHEAST NEW MEXICO

HOBBS, N. M., Aug. 26.—New wildcat locations featured the week's developments in this district, there being three new exploratory tests staked in Chaves County. Completions fell far below normal with only two producers being finaled, one each in Eddy and Lea counties. Three tests were plugged as dry in Eddy County.

Roxana Oil Co., Shell Oil Co., Inc.'s operating name in the Southeast New Mexico district, staked two of the Chaves County wildcats. The No. 1 Franks is located in NW NW 17-9s-25e, about 16 miles northeast of Roswell.

About 11 miles southeast of Roswell Roxana staked location for No. 1 Maull. It is in NE NW 11-12s-25e, about 3½ miles southeast of a wildcat abandoned at 1,374 ft. by Tarkington, on the Peters tract, in January of this year.

The third location is H. Steinberger 1 Headley, NW SW 26-14s-29e, in the wildcat area immediately north of the Artesia district of northern Eddy County.

SOUTHEAST NEW MEXICO COMPLETIONS

(24-hour gages)

Eddy County

Wildcats: Sanders Brothers 1 Miller, 31-19-31, dry, T.D. 2,396 ft.
E. P. Moran 1 Ramuz, NE NW 18-23-26, dry, T.D. 1,808 ft.
Loco Hills field: Continental and S. P. Yates 4 Brainard, NE NE 3-18-29, pumped 66 bbl. in 13 hr., shot 2,608-2,741 ft.
L. R. Manning 2 McClay, NE NE 21-18-30, dry, T.D. 3,500 ft.

Lea County

Maljamar field: Cockburn 16-B Baish, SE NW 28-17-32, flowed 93 bbl., shot 3,750-3,810 ft.

SOUTHEAST NEW MEXICO ACTIVE WILDCATS

Chaves County

Roxana 1 Franks.....NW NW 17-9s-25e
16 mi. NE of Roswell, first report.
Roxana 1 Maull.....NE NW 11-12s-25e
First report.
H. Steinberger 1 Headley.....NW SW 26-14s-29e
First report.
Martin 1 Stephens.....NW NE 22-15-29
Old failure drilling deeper, S.D. 2,340 ft.

Dona Ana County

Armstrong 1 Baker.....NW SW 4-23-1
Rigging up spudder.

Eddy County

Beddingfield & Walker 1 Seale.....SE SE 10-20-27
Drilling 553 ft.
Talmadge 1 State.....SW NE 24-16-28
Drilling 2,212 ft.
Jones & Yates 1 Everest.....NE SE 15-18-26
Drilling 690 ft.
Trojan 1 Grant.....SW NE 33-20-25
T.D. 1,590 ft.; S.D.
Schumacker 1 Levers.....NE NE 33-16-29
T.D. 2,825 ft., rigging up pump.
J. B. Cowden 1 State.....SW SE 3-17-29
Between Root field and High Lonesome, T.D. 2,796 ft., pumping est. 10 bbl., S.I.
Artesia Drilling 1 Hoffman.....SE SE SE 14-17-24
Est. 1,250,000 cu. ft. at 938 ft.; S.D. 1,282 ft.
M. Yates 1 Williams.....NE NW 25-18-26
Location.
Black & Ratliff 1 Simmons.....SE NW 9-21-25
Drilling 385 ft.
A. & M. Petroleum 2 State.....NW SE 15-21-17
Drilling 330 ft.
Clark & LaNeve 1 Boulter.....SE NW 28-19-27
Location.

Lea County

Stanley & Weiner 1 Saunders.....NE NE 20-21-38
Rigging up standard tools 1,620 ft.
Venture Oil 1 Lowe.....SW SE 26-13s-37e
6,000-ft. test, top Yates sand 3,150 ft., drilling 5,567 ft.
Great Western Prod. 1-D State.....SE SE 30-12-32
Drilling 2,050 ft.

Otero County

R. H. Ernest 1 Located Land Co.....SE SE 20-25-7
Drilling 3,600 ft.

TEXAS PANHANDLE

AMARILLO, Tex., Aug. 26.—New completions from this district for the past week exceeded in number those of any week for several months, with 10 new oil wells and 6 new gas wells. The aggregate initial potential of the oil wells was 1,682 bbl. while the new gas wells added a combined total of 81,950,000 cu. ft. of gas to the initial well yields of the area.

PANHANDLE COMPLETIONS

(24-hour gage)

Carson County

Magnolia 86 fee 244, 50 bbl., 3,030-42 ft.

Gray County

I. T. I. O. 16 Smith, 375 bbl., 3,171-3,263 ft.
Southern Pet. 4 Archer, 72 bbl., 3,175-3,288 ft.
Stanolind 10 Hood, 144 bbl., 3,095-3,164 ft.
Wilcox 43 Combs-Worley, 156 bbl., 2,945-3,055 ft.

Moore County

Panhandle Eastern 1-22 Bennett, 22,600,000 cu. ft. gas, 2,530-2,890 ft.
Panhandle Eastern 1-23 Sneed, 30,900,000 cu. ft. gas, 2,480-2,780 ft.
Panhandle Eastern 1-26 Sneed, 10,200,000 cu. ft. gas, 2,460-3,054 ft.
Texoma 15-M Coon, 8,200,000 cu. ft. gas, 2,815-3,078 ft.
Texoma 8-M Coon, 6,700,000 cu. ft. gas, 2,886-3,288 ft.

Hutchinson County

J. E. Crosbie 1 Cockrell, 200 bbl., 2,833-2,965 ft.
J. E. Crosbie 35 Pitts, 387 bbl., 2,735-2,835 ft.
Frabor-Hodges 2 Ware, 201 bbl., 2,950-3,030 ft.
Huber Pet. 1 Mayfield, 3,350,000 cu. ft. gas, 3,070-3,198 ft.
Steckoll 10 Whittenburg, 56 bbl., 2,740-2,811 ft.

Wheeler County

Hugale Oil 8 Binkley, 43 bbl., 2,240-75 ft.

WILDCAT OPERATIONS

Childress County

Texas 1 P. B. Smith, NW NW Sec. 97, Blk. 9, H.&G.N. Sur., 7,500-ft. contract, drilling 4,700 ft.

Motley County

Humble 1-C Matador, Sec. 29, Blk. J.B., G.B.&C.N.G. Sur., moving in.

Sherman County

I. T. I. O. 1 Bryan, C NW Sec. 369, Blk. T-1, T.&N.O. Sur., P.B. to 3,350 ft., to complete as gas well, prepare to complete for 37,000,000 cu. ft. of gas.

Swisher County

Krupp-Flaherty 1 Kleen, Sec. 120, Blk. 10-M, 6,500-ft. test, surface casing set 625 ft., top salt 1,020 ft., drilling ahead.

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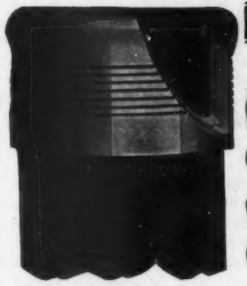

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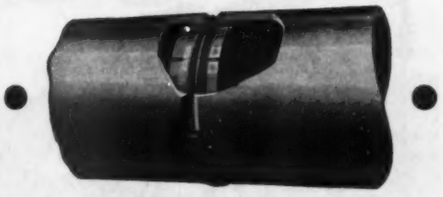

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Opelika and Joaquin Fields Show Increasing Activity

By R. MARNE SANFORD

DALLAS, Tex., Aug. 26.—The deep Opelika area of Henderson County centered attention in the eastern Texas district last week as preparations were being made to rework all wells in the deep field and drill one new deep test.

The field was opened by Tide Water and Seaboard companies several years ago. These interests spent more than $1,000,000 in developing the field, the results being only two gas wells and one small oil producer. With the field then almost defined as only a gas area, the discovery interests sold all property including the three wells to Shamrock Oil & Gas Co. and Lone Star Gas Co. The new operators staked and started drilling two additional wells in the field. These, still in the drilling process, are No. 1 Lewis, W. P. Wyche Survey, north of the discovery, drilling at 6,320 ft., and No. 1 Peacock, S. Hatton Survey, east of the discovery, drilling at 5,780 ft.

New Operations

The new operation for the area is Lone Star and Shamrock 1 Allyn, J. Lawson Survey, on the southwest side of the field. The two gas wells and the oil producer will be reworked by the new operators who plan a thorough development campaign for the field during the coming months. No. 1 S. S. McGee, R. Acosta Survey, is being reworked at present at a total depth of 8,174 ft. Casing was perforated from 8,142-74 ft. with 147 shots and from 8,066-78 ft. with 56 shots. The well made 466 bbl. of distillate with 7,850,000 cu. ft. of gas when gaged. It is now shut in awaiting an acid treatment.

New wildcat test for the Balcones fault system in Navarro County, which will seek production from the Woodbine sand, is C. L. Brown, Jr. 1 W. P. Brown, in the upper John White Survey, a mile east of Richland. In Navarro County and seeking to extend the Bazzette field 2 miles to the southeast, W. E. McKinney 1 James, R. D. Newman Survey, is coring below 2,925 ft. after basing the Austin chalk at 2,778 ft.

EASTERN TEXAS COMPLETIONS

EAST TEXAS FIELD

(1-hour gages)

Gregg County

Longview area: Stanolind 62-B McKinley, 9 bbl., 3,564-83 ft.

Kilgore area: Bradley 10 Duncan, 18 bbl., 3,653-54 ft.
Bradley 11 Duncan, 20 bbl., 3,636-37 ft.
Moses 2 Moses-Laird, 42 bbl., 3,545-47 ft.
Moses 7 Moses-Laird, 32 bbl., 3,545-48 ft.
B. F. Phillips 41 Lee, 30 bbl., 3,576-77 ft.
Prod. Inv. Corp. 6 Crim, 25 bbl., 3,539-41 ft.

Rusk County

Joiner area: Carmichael 6 Massad, 50 bbl., 3,711-12 ft.
Gant-Garvis & Weggener 41 Moore, 52 bbl., 3,518-75 ft.

EAST CENTRAL TEXAS

(24-hour gages)

Anderson County

Long Lake field: McCutchin 3 Reagan, 192 bbl., 5,382-86 ft.

Franklin County

Talco field: Texas 15 Barker, 250 bbl., 4,130-4,284 ft.

Freestone County

Cayuga field: Amerada 11 Berk, 200 bbl., 4,007-26 ft.
Wildcat: Arkansas Fuel 1 Utley, dry at 4,506 ft.

Morris County

Wildcat: Zuber 1 Conner, dry at 4,563 ft.

Rusk County

Wildcat: Harrold 1 Armstrong, dry at 7,506 ft.

WILDCAT OPERATIONS

Falls County

Joy Carruth 1 Westbrook, Manchaca Sur., 3½ mi. NE of Chilton. S.D. 42 ft.

Kaufman County

T. G. Shaw, Tr. 1 Agnes Wynne, B. S. Newman Sur., 8 mi. E Kaufman, lower Trinity test, top anhydrite 5,934 ft., top Massive 6,123 ft., base Massive 6,255 ft., T.D. 6,454 ft., S.D.

Leon County

Alexander & Wilhite 1 C. H. Mills, M. Copeland Sur., 2½ mi. E of Normangee. Top Wilcox 1,020 ft., drilling 2,707 ft.

Limestone County

Frank Bryan 1 F. Bevill, J. H. Murray Sur., 1 mi. SW Horn Hill. Preparing to set 15-in. casing 1,500 ft.

Navarro County

Carter 1 Bridwell, M. Shire Sur., ½ mi. N Angus. Drilling 420 ft.

W. E. McKinney 1 James, R. D. Newman Sur., 1½ mi. E Bazzette field. Set 10-in. 66 ft., coring below 3,092 ft.

A. J. Willis 1 Cheney, W. Reed Sur., 12 mi. SE Corsicana. S.D. 802 ft.

Willis 1 Swanson, J. Johnson Sur. S.D. 803 ft.

Red River County

J. F. Morrissey 1 Tyler, James Miro Sur., 3½ mi. SE of Bogata; 5,000-ft. test. First report.

Upshur County

H. C. McGahey 1 Ludie Turner, SE cor. 200-acre tract in A. Butler Sur. Top Pecan Gap 2,380 ft., base Pecan Gap 2,970 ft., S.D. 4,211 ft.

Van Zandt County

Clark 1 Hallman, R. T. Wheeler Sur., 4 mi. SE of Van. Moving in.

Wood County

Plains Prod. 1 S. I. Smith, S. Calderon Sur., 5 mi. NW Quitman. Top Pecan Gap 2,568 ft., base Pecan Gap 2,741 ft., preparing to abandon 4,660 ft.

EAST TEXAS BORDER

SHREVEPORT, La., Aug. 26.—In the Joaquin field of Shelby County Texas and De Soto Parish, Louisiana, operations continue. Following completion of the Union Producing Co. 1-A Garrett in Shelby County, rig was moved to the No. 1-B Garrett across the Sabine River in De Soto Parish. The first test, a southeast outpost, showed the massive anhydrite at 4,524-4,740 ft. and slightly porous lime at 4,790-94 ft. Porous lime streaks in the pay section were cored at 4,830-39 ft., 4,866-4,903 ft., and 4,924-32 ft. A string of 5½-in. casing was set at 4,995 ft., and the porous section was perforated and acidized. The test is shut in awaiting a gage.

The Shelbyville wildcat, Superior Oil Co. of Tulsa 3 Pickering Lumber Co., after trying to blow out while operators were drilling at 5,045 ft., was cored from 5,045-81 ft., showing recovery of limy shale, hard dense shaly lime and dense gray lime, and is drilling ahead below 5,437 ft.

In addition to slight extensions on the south and west, the Waskom field continues of interest, with the spudding of Arkansas Louisiana Gas Co. 2 Taylor, in the Holloway Survey, about 4,000 ft. due north of No. 1 Taylor and 5,000 ft. southwest of the operator's No. 1 Abney. This test will shortly show the extent of the field to the west of present production.

Two new locations of interest are Holcombe & Thomason 15 Crenshaw, Thomas Cox Survey, in the Bethany gas area of eastern Panola County, and George E. Ellis et al 1 L. Sharp estate, Davis Survey, and 3½ miles north of San Augustine in San Augustine County. The Bethany test will go 6,000 ft.

EAST TEXAS BORDER FIRST REPORTS

Waskom—Harrison County

Arkansas Louisiana Gas 2 W. B. Taylor, 1,400 ft. S, 4,200 ft. W, NW cor. E. Little Sur., S. Holloway Sur.

Bethany—Panola County

Holcombe & Thomason 15 Crenshaw, 1,538 ft. S, 1,191 ft. E, NW cor. Thomas W. Cox Sur.

Wildcat—San Augustine County

George E. Ellis et al 1 L. Sharp estate, 800 ft. SW cor. 815-acre tract, A. N. Davis Sur.

EAST TEXAS BORDER COMPLETIONS

Waskom—Harrison County

Arkansas Louisiana Gas 1-D Abney, 3,150 ft. northerly NE cor. J. Shandoin Sur., 850 ft. S line tract, 20,500,000 cu. ft. gas, set 5½-in. casing 6,215 ft., perf. 5,940-6,136 ft., T.D. 6,215 ft.

Union Prod. 1 L. Karslake, 930 ft. S, 750 ft. E, NW cor. 307-acre tract, T. D. Wilson Sur., T.D. 6,097 ft., 10,000,000 cu. ft. gas, rock pressure 2,280 lb.

Smithland—Marion County

L. E. Baker & Bryan 1 A. L. Hartzo, 1,460 ft. N, 315 ft. W, SE cor. G. Coore Sur., dry, T.D. 2,412 ft.

Caddo—Marion County

J. D. Reynolds 1 L. W. Whatley, 700 ft. N, 1,100 ft. W, SE cor. W Coore Sur., pumping 18 bbl., set 6-in. casing 2,304 ft., oil sand 2,330-32 ft., T.D. 2,344 ft.

EAST TEXAS BORDER WILDCATS

Bowie County

W. E. Neill 1 L. Fort, 600 ft. N line, 150 ft. E line, 103-acre tract, L. Peters Sur., T.D. 2,320 ft., report slight show oil, arranging to set casing and test 2,280 ft.

Harrison County

Arkansas Louisiana Gas 1 Speights Unit, 370 ft. N, 400 ft. E, SW cor. E. Little Sur., drilling sand and shale 6,067 ft.

(Continued on Page 99)

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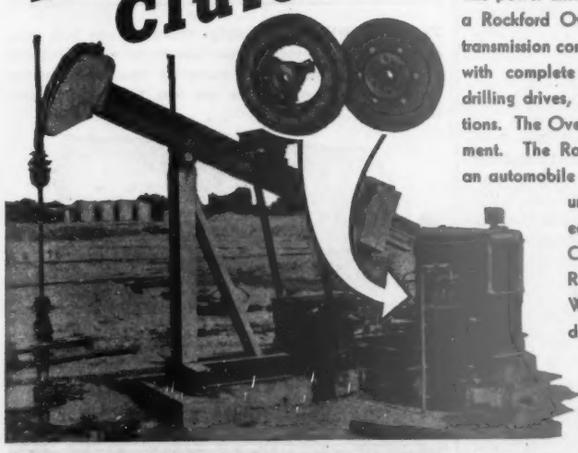

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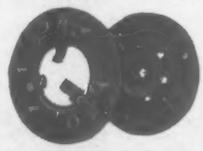

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Large Gas Wells Completed In Muskingum County

By STAFF CORRESPONDENT

ZANESVILLE, Ohio, Aug. 26.—Muskingum County furnishes the highlights of the week's completions with gas wells gaging 9,200,000 and 3,500,000 cu. ft. The 9,200,000-cu. ft. gasser is located ½ mile east of Zanesville. The 3,500,000-cu. ft. well is 2½ miles south of Philo on the Muskingum River. The Newark field yielded fair gas wells. Perry County has a 120-bbl. oil well in the Clayton pool. Eleven gas wells, five oil wells and nine dry holes make up the completions for the week.

Ashland County

Jackson Township: Ohio Fuel 1 J. McDowell, Sec. 5, 160,000 cu. ft. gas, Clinton 2,828-33 ft., T.D. 2,901 ft.

Athens County

Lodi Township: Bowman 1 F. Buday, Sec. 12, 60,000 cu. ft. gas, shot, second Berea 1,610-25 ft.

Holmes County

Hardy Township: Bell Bros. 1 E. Balder, Sec. 17, 70,000 cu. ft. gas, Berea 768-76 ft.

Newark Field—Licking County

Mary Ann Township: Davis 1 B. Dye, Sec. 15, 1,900,000 cu. ft. gas, Clinton 2,660-85 ft.
Newark Township: Dowler 1 Paramore, northeast of third quarter, 550,000 cu. ft. gas, shot, Clinton 2,313-31 ft.
McCloy 2 Baker, Lot 8, second quarter, 150,000 cu. ft. gas, Clinton 2,343-65 ft.
Willey 1 Clouse, northwest of first quarter, 1,250,000 cu. ft. of gas, Clinton 2,436-76 ft.
Newton Township: Ohio Fuel 1 Stewart, south part of fourth quarter. Dry, Clinton, T.D. 2,523 ft.
Ohio Fuel 1 Samuelson, south part of fourth quarter. Dry, Clinton, T.D. 2,538 ft.
Fallsbury Township: McClay 7 Porter, Sec. 13, 70 bbl., shot, Clinton 2,957-3,045 ft.
Perry Township: Moran 1 Fairall, Sec. 7, 15 bbl., shot, Clinton 2,745-93 ft., T.D. 2,802 ft.

Medina County

Chatham Township: Preston Oil 5 E. Packard, Lot 2, Tract 16, 5 bbl., shot, Berea 437-57 ft., T.D. 519 ft.
Liverpool Township: Wagner et al 1 Stoskoph, Sec. 3, 120,000 cu. ft. gas, Clinton 2,725-50 and 2,754-64 ft., T.D. 2,784 ft.

Meigs County

Sutton Township: Proffitt 1 R. Burri, Sec. 16. Dry, Cow Run 528-34 ft., T.D. 540 ft.

Monroe County

Franklin Township: Robinson 1 Miracle, Sec. 20. Dry, Keener, T.D. 1,479 ft.
Christy et al 8 Haught, Sec. 32. Dry, T.D. 820 ft.

Morgan County

Marion Township: Harris 4 E. Harris, Sec. 13. Dry, Maxon, T.D. 1,098 ft.

Noble County

Stock Township: Lumbatis 1 C. Dotson, Sec. 29, small gas well, shot, Berea 1,905-10 ft.

Muskingum County

Harrison Township: Gas Prod. 1 R. H. Finley, Sec. 17, 3,500,000 cu. ft. gas, Clinton 4,037-70 ft., T.D. 4,072 ft.
Wayne Township: Ohio Fuel 1 Ayers Mineral Co., Sec. 4, 9,200,000 cu. ft. gas, Clinton 3,779-93 ft., T.D. 3,794 ft.

Perry County

Clayton Township: Preston Oil 1 C. Hynus, Sec. 18, 120 bbl., shot, Clinton 3,203-48 ft.
Pure 2 J. Hull, Sec. 18, 50 bbl., shot, Clinton 3,231-87 ft.
Jackson Township: Hoover 1 C. Kishler, Sec. 28. Dry, Berea, T.D. 936 ft.

Tuscarawas County

Jefferson Township: Brendel 1 L. M. Aken, Lot 29, second quarter. Dry, Berea, T.D. 1,274 ft.

INDIANA

EVANSVILLE, Ind., Aug. 26.—Eight oil wells and three dry holes were completed in Indiana last week, seven of the producers being in the Griffin area in Gibson and Posey counties. There were also 15 new wells started, of which 4 were in Gibson County and 2 were in Posey County. The remainder were scattered throughout the state.

Activity is increasing in Porter County, in the northwestern part of the state, where a heavy crude is obtained from the Devonian at depths of less than 300 ft. The wells are small, about 1 or 2 bbl.

Statistically, Indiana appears to be quite busy as there are 108 wells in all stages from standing rigs to near completions scattered through 31 counties. Analysis of this activity shows that it is not so great as it appears. Of the 108 wells, 23 are locations, 5 have rigs up and 45 are shut down, leaving only 35 actually drilling. Of the 31 counties, only 9 have active drilling operations, all the wells in the remaining 22 listed in the currently active column being in various stages of quiescence. Gibson and Posey counties account for 45 wells of which 21 are active and there are 6 active wells in Spencer County, leaving 8 other active wells in six counties. Obviously, this report is not quite accurate as many of the wells shut down are only temporarily inactive, but the number of dormant wells is quite large.

Riddle 1 Greathouse, NE NE NE 13-7s-13w, in Posey County, may open a small pool as operators are testing sands which showed oil at 1,436 and 2,197 ft., and which were passed up as the well was drilled to the McClosky below 2,800 ft.

INDIANA COMPLETIONS

Bartholomew County

How Creek Ref. 1 Fishel ..... SE NE NE 15-10n-7e
Dry. Trenton 880 ft., T.D. 1,430 ft.

Daviess County

Hartmann et al 1 White ..... SW NW SW 22-2n-7w
Dry 1,540 ft., did not drill deeper as announced.
C. P. & H. Drig. 1 Hunt ..... SW SW NW 4-2n-5w
9 bbl., shot, 576-84 ft., T.D. 589 ft.

Gibson County

United Pet. 1 Turpin ..... SE NW SW 4-2s-10w
Dry. No. 5 Coal 382-89 ft., show gas 750-60 ft., T.D. 1,104 ft..
L. B. Jackson 1 Sturgeon ..... SE NW SE 10-2s-9w
Pumped 80 bbl. oil and 20 bbl. water, 1,000 gal. acid, T.D. 1,674 ft., P.B. to 1,666 ft.
J. Bander 8 Cooper ..... NW NW NE 13-3s-14w
Pumped 68 bbl. 2,480-99 ft.
J. Bander 34 Cooper ..... SW SW NE 13-3s-14w
Pumped 233 bbl., 6,000 gal. acid, 2,856-76 ft., T.D. 2,884 ft.
Hall Edwards 9 Maier ..... SW SE SE 14-3s-14w
Flowed 300 bbl., 3,000 gal. acid, Ste. Genevieve 2,779 ft., T.D. 2,865 ft.
Hall Edwards 8 Maier ..... NW SW NW 13-3s-14w
Flowed 440 bbl., 3,000 gal. acid, 2,848-50 ft., T.D. 2,861 ft.
Lewis Prod. 2 Dunn ..... NW SW NW 18-3s-13w
Pumped 200 bbl., 3,077-95 ft., T.D. 3,098 ft.

Knox County

Richter & Cain 1 Montgomery .. NW NE SW 28-5n-7w
Dry. Old well drilled deeper 2,261-2,439 ft.

Posey County

R. Ryan 5 Keck ..... SW NW NW 34-3s-14w
Flowed 150 bbl., 2,780-2,811 ft., T.D. 2,816 ft.

Spencer County

Snell et al 2 Biggerstaff ..... SW SW NW 6-7s-7w
Dry. H.F.W. 1,040-42½ ft.

Sullivan County

O. Steele et al 1 Land ..... N½ NE NE 36-7n-9w
Rig abandoned.

INDIANA DRILLING REPORT

Porter County

Roung & Lowe 1 Nielson .....NW SW NW 28-36n-5w
Pay 285-87 ft., est. 1 bbl., to treat.
J. M. Kavana 1 Chesterton St. Bank .....
NW NW NE 20-37n-5w
Devonian 273 ft., S.D. 279 ft.

Gibson County

Continental 1 Mumford ..... NW NW NE 25-3s-14w
Swabbed 150 bbl. in 18 hr., 2,092-2,118 ft., T.D. 2,958 ft., P.B. to 2,118 ft., testing.
Continental 10 Bozeman ..... SE NE NE 23-3s-14w
Flowed 10 bbl. per hr. naturally, 2,489-2,522 ft., T.D. 2,529 ft., testing.
W. J. Whitcomb 1 Meade ..... SE SE SW 12-1s-10w
Glen Dean 1,320 ft., S.D. 1,543 ft.
Newton P. L. 1 Mary Carrithers . SW NW SW 25-1s-10w
H.F.W. 1,618-21 ft., drilling 1,632 ft.
Roberts Bros. 1 Hall ..... NW NW NE 20-1s-10w
Menard 1,495 ft., Glen Dean 1,720 ft., Hardinsburg 1,750 ft., est. 4,500,000 cu. ft. gas, trying to kill.

Posey County

H. K. Riddle 1 Greathouse ..... NE NE NE 13-7s-15w
Ste. Genevieve 2,744 ft., show oil 1,436-48 ft., 2,197-2,208 ft., T.D. 2,862 ft.
Nelson Dev. 1 Hortsmann ..... NE SE NE 15-6s-7w
Swabbed 14 bbl. oil and 45 bbl. water, 1,165-1,180 ft. T.D. 2,840 ft., P.B. to 1,209 ft.
Rossi 3 Egli ..... SE SE NW 19-6s-12w
Glen Dean 2,104 ft., Cypress 2,370 ft., show oil 2,375-87 ft., drilling 2,395 ft.
W. S. McBride 1 Swanders ..... NW NW NE 4-4s-6w
Swabbed 60 bbl., 2,339-51 ft., testing.

Spencer County

O. F. Kelly 1 Miller ..... SE SE NW 2-8s-7w
Kincaid 805 ft., Degonia 835 ft., Glore 890 ft., Menard 960 ft., Glen Dean 1,180 ft., show oil 1,358-75 ft., Barlow 1,388 ft.
Snell et al 1 Graham ..... SW NW NE 15-6s-7w
H.F.W. 918-27 ft., drilling 945 ft.
B. Hoover 1 Rothert ..... SW NW NW 1-5s-6w
T.D. 1,182 ft., will P.B. and test 720-53 ft.

Sullivan County

S. E. Bailey 1 Wible ..... NE NE NW 36-8n-11w
No. 6 coal 356 ft., No. 5 coal 410 ft., gas sand 576 ft., H.F.W. 614 ft.

WESTERN KENTUCKY

OWENSBORO, Ky., Aug. 24.—Four oil wells and three dry holes were completed in western Kentucky during the past week. Among the new tests are two in the Hebbardsville district, caused by the good production obtained in Connell 1 Cooksey Bennett and reported on last week. There are now four wells drilling in the district.

Butler County

Huntsville district: Cumberland 2 George Sweezy. drilling 400 ft.

Daviess County

Handyville district: Stewart & Snyder 5 Anna Ezell, dry through Jett, drilling deeper for Barlow.
Utica district: Stewart & Snyder 6 Roy Hansford, 125 bbl., shot 140 qt., Jett 1,169-1,208 ft., 60 qt., Barlow 1,437-60 ft., 80 qt., Bethel 1,497-1,516 ft.

Hancock County

Saunders School district: Hupp 3 Della Lane, 10 bbl., shot 60 qt., Jett 290-306 ft., T.D. 314 ft.

Henderson County

Sebree district: Bailey 1 W. R. Eakins, 5 bbl., shot 20 qt., Penna 785-98 ft., T.D. 806 ft.
Hebbardsville district: Connell et al 2 M. C. Bennett, rigging up.
Stewart & Snyder 1 Otto Busby, location.

McLean County

Livermore district: Ellis 1 Lula Edmonds, old T.D. 1,446 ft., drilling 1,480 ft., going to McClosky.

Ohio County

Fordsville district: H. Vickers et al 3 Reat Kirk, dry through Jett, T.D. 531 ft.
A. V. Smith et al 1 Kissinger, location.
Dundee district: Sohio 3 L. C. Powers, 10 bbl., shot 40 qt., Jackson 538-47 ft., T.D. 557 ft.
Boston district: Sohio 15 Dave King, drilling at 650 ft.
Pleasant Grove Church district: Hunt et al 1 John Nelson, drilling at 300 ft.

Union County

Uniontown district: Benedum-Trees 1 Clements, dry through McClosky, T.D. 2,610 ft.

La.-Ark. Fields

(Continued from Page 85)

Lafayette County

Atlantic 2 Bodcaw Lumber Co., SW SE 29-17-23, drilling sandy shale 7,460 ft.
J. & J. Oil 1 J. E. Barnes, 345 ft. W, 615 ft. N, SE cor. 4-16-24, cored 2,266-83 ft, sandy marl, awaiting orders.

Lonoke County

Lunnon, Howell & Ford 1 City of Cabot, NE cor. Lot 1, Blk. 6, 18-4n-9w, did not set casing, drilling sand 1,290 ft.
J. F. Russell 1 J. T. Gunter, 440 ft. N, 577 ft. W, SE cor. 17-5n-10w, drilling shale 2,707 ft.

Saline County

Tedford Drilling et al 1 Cunningham, SW NE 31-3s-15w, 10-in. casing 331 ft., awaiting orders.
Tedford Drilling 1 Williams, 1,295 ft. SE of No. 1 Cunningham, 31-3s-15w, set 6-in. casing 294 ft., drilling 303 ft.

Canadian Fields

(Continued from Page 82)

and flooded an oat field for an hour before it could be shut in. The well was put on the pump, and made a flush of 150 bbl. a day. Eight previous wells on the Freer farm were fair producers. Location is east of the Warwick shallow pool in Lambton County.

ONTARIO COMPLETIONS

Malahide Township: Union Gas Co., 44, NW, Lot 30, Concession 4, 340,000 cu. ft. gas, T.D. 1,091 ft.
Union, 45, SE, 7-4. Dry. T.D. 1,129 ft.
Union, 46, 2-5. Dry. T.D. 1,175 ft.
Union, 47, 6-4. Dry. T.D. 1,108 ft.
Union, 48 C. L. Ellis, 32-5. Dry 1,103 ft.
Union, 49 F. C. Dunn, N½ 1 16-4. 110,000 cu. ft., T.D. 1,087 ft.
Central Pipe Line, 1 John Wardle farm, N½ Lot 1, Concession 10, 171,000 cu. ft. gas.
Central Pipe Line, 2 John Wardle, 10-4. 840,000 cu. ft. gas, T.D. 1,082 ft.
Central 1, Blake Miller 31-4, 1,300,000 cu. ft. gas, below 1,000 ft.
Haldimand field, Rainham Township: Union Gas, 242, Lot 2, Concession 3, 145,000 cu. ft. gas. T.D. 943 ft.
Union, 3-3, 22,000 cu. ft. gas, T.D. 898 ft.
Union, 248, 5-3. 40,000 cu. ft. gas, T.D. 912 ft.
Haldimand field, Walpole Township: Union Gas, 244, Lot 10, Concession 13. Dry 864 ft.
Union, 245, 11-14. 14,000 cu. ft. gas, T.D. 810 ft.
Union, 247, 8-14. 27,000 cu. ft. gas, T.D. 811 ft.
Brownsville field, North Norwich Township: Dominion Natural Gas, 1 Robert Kilpatrick, 25-2. Dry. White Medina.
North Dorchester Township: Dominion, 1, W½ 1-1. Dry below 1,000 ft.
Dereham Township: E. P. Rowe, 1, Lot 12, Concession 4. Dry below 920 ft.

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TEXAS GULF COAST

Galveston Bay Becomes Most Active Area on Gulf Coast

By NEIL WILLIAMS

HOUSTON, Tex., Aug. 26.—Another maritime field was added to the Texas Gulf Coast as Humble Oil & Refining Co. completed No. 1-A-247 State for a distillate producer. This well, which has been in the process of completion for the past several weeks, is located on the Red Fish Reef prospect, approximately 4½ miles southeast of Seabrook, offshore from Chambers County in Galveston Bay. Drilled to a total depth of 9,448 ft., 7-in. casing was cemented at 9,225 ft., and the well was completed through perforated casing at 8,796-8,802 ft., for an initial production of 16 bbl. of 50-gravity distillate per day flowing through a ⅛-in. choke. Tubing pressure was 2,900 lb. Decision to plug back and complete in the present sand was made after a series of drill-stem tests below 9,000 ft. failed to develop commercial production due to salt-water encroachment.

Galveston Bay has become the most active wildcat area in the district as six operations are getting under way. Approximately 1,134 ft. southeast of the above test drilling was started by Humble on No. 1-A-246, while piling is being driven for No. 1-B-288 State. On the Fishers Reef prospect, Humble 1-C-45 State is drilling below 1,800 ft., while Standard Oil Co. of Texas and the Texas Co. have spudded two tests located in state tracts Nos. 13-66 and 237. In the Gulf of Mexico, and located on the McFaddin Beach prospect, drilling was started on Merrimac Oil Corp. 1 State, while in the lower Gulf Coast district, Humble Oil & Refining Co. and Salt Dome Oil Corp. are making preparations to drill two tests in Aransas Bay, offshore from Aransas County.

Rowan & Nichols 2 Hubbard, about 1,200 ft. northeast of the discovery well of the Rowan field, Brazoria County, is drilling below 8,650 ft. after coring the discovery sand. Coring was started at 8,519-26 ft., and 7 ft. of gas sand was recovered. Three additional cores at intervals from 8,528-55 ft., recovered sand, broken sand and sandy shale having an oil and gas odor. The well topped the Discorbis at 6,440 ft., Heterostegina at 7,160 ft., and the Round Marginulina at 7,340 ft. Based on these markers the well is running about normal with the discovery well.

Fairbanks Extension

Oil production in the North Houston area of the Fairbanks field, Harris County, was being extended as Landreth Production Co. and Keystone Royalty Co., Inc. 2 Sutherland et al was flowing an unestimated amount of oil and wash water while cleaning out from sand at 6,833-45 ft. Tubing pressure was 130 lb., and casing pressure 985 lb. Location is in the W.C.R.R. Survey 24, Block 4, about 1,100 ft. northwest of the companies' No. 1 Sutherland, a gas and distillate producer.

A small gas well was opened on the Mount Houston area, Harris County, as Jack Frazier 4 Griffith was flowing dry gas through perforated casing at 3,482-86 ft. The well is testing through a ¼-in. choke with tubing and casing pressure equalized at 500 lb. The well was drilled to a total depth of 4,205 ft., and 5½-in. casing was cemented at 3,502 ft. Location is on the Adam Smith Survey.

New Operations

Location for a deep test was staked in the Markham area, Matagorda County, by Pan American Production Co. The well is situated on the R. J. Sisk B lease in the David Etherton Survey, about 5 miles west of Markham.

Barnsdall 1 Pritchett, about 6 miles north of La Ward, Jackson County, is shut down at a total depth of 6,510 ft., with no additional showing reported. The well topped a sand in the upper Frio formation the previous week at 5,204 ft., and sand with an oil odor was cored at intervals from 5,283-93 ft. Two attempted drill-stem tests failed when the seat of the testing tool failed to hold. In the Lolita area, 1 mile south of production, C. G. Glasscock has derrick up for No. 1 R. T. Walker in the G. H. Ewing Survey. Southwest of the town of Ganado Pure Oil Co. is moving in a rig for No. 1 Frank Spacek, in the William Menefee Survey.

Christian Carpenter et al are moving a rig to the Ogburn area, Harris County, for No. 1 Rorick in Block 25, about 3,000 ft. southwest of the discovery well. Approximately 3,600 ft. northwest of the discovery W. L. Goldston 1 Josey is drilling in sidetracked hole below 6,345 ft. The hole was sidetracked to recore and test the sand logged in the original hole at 6,937-40 ft.

Location for a wildcat test about 1½ miles southwest of the West Beaumont field, Jefferson County, was announced by Hebert & Smith. The well is located on the Yount lease in the A. Houston Survey.

TEXAS GULF COAST COMPLETIONS

Brazoria County

Old Ocean field: Stanolind 1 Schelle-Donovan, perf. casing 10,160-65 ft., 152 bbl., 12 hr., ¼-in. choke.
West Columbia field: Hogg Oil 12 fee, sand 5,418-38 ft., 231 bbl., ¼-in. choke.

Harris County

Clear Lake field: Humble 51-C West, 5,980 ft., 120 bbl., ⅛-in. choke.
Humble 54-C West, 5,987 ft., 120 bbl., ⅛-in. choke.
Humble field: E. W. Ogden 1 Wheeler & Pickens, sand 1,755-67 ft., 125 bbl., 10 per cent water, pumping.
South Houston field: Stanolind 1 Whorley, sand 4,818-38 ft., 541 bbl., ¼-in. choke.
Wildcat: Humble 1 Furr, 9,510 ft. Dry.

Chambers County

Seabreeze field: Sun 3 Hoffman, perf. casing 8,445-60 ft., 359 bbl., ¼-in. choke.
Caplen field: Sun 4 Cade, perf. casing 7,064-84 ft., 168 bbl., ⅛-in. choke.

Jackson County

Lolita field: Wellington 4 L. Ranch, perf. casing 5,936-40 ft., 157 bbl., ⅛-in. choke.
West Ranch field: Seaport 1 Stepan, perf. casing 5,762-67 ft., 648 bbl., ¼-in. choke.
Magnolia 96-A West, perf. casing 5,760-68 ft., ¼-in. choke.

Jefferson County

Fannett field: Gulf 9 Bordages, perf. casing 7,864 ft., 35 bbl. distillate, 2,500,000 cu. ft. gas, ⅛-in. choke.

Orange County

Port Neches field: Titanic 1 Akers, 6,508 ft. Dry.
Phillips 2 Lutcher, perf. casing 4,552-54½ ft., 440 bbl., ¼-in. choke.

Wharton County

Withers field: Texas 75-C Pierce, perf. casing 5,348-56 ft., 384 bbl., ¼-in. choke.

TEXAS GULF COAST WILDCATS

Austin County

John Mayo 1 Bollman, spudded.
Humble 17 Woodley, deep test, Raccoon Bend field, T.D. 7,230 ft., 7-in. casing cemented 7,224 ft., perf. casing 4,164-70 ft., made cement squeeze job.

Brazoria County

Glenn McCarthy 1 Munson, Bailey's Prairie prospect, T.D. 11,860 ft., milling on junk at 10,286 ft.

Chambers County

Humble 2-A-246 State, Galveston Bay, 10¾-in. casing cemented 2,998 ft.
Humble 3-A-248 State, Galveston Bay, driving piling.
Humble 1-B-288 State, Galveston Bay, moving in drilling barge.
Humble 1-C-45 State, Galveston Bay, drilling 1,478 ft.
Standard of Texas 13-66 State, Galveston Bay, drilling 220 ft.

Galveston County

Continental 1 Davis, League City area, M. Muldoon Sur., drilling shale 2,720 ft.
Texas 1 Kainer, J. Brown Sur., drilling shale 8,920 ft.
Texas 1-237 State, Galveston Bay, drilling sand 468 ft.
Stanolind 2 Hulen, Alta Loma field, drilling sand 10,420 ft.

Harris County

W. L. Goldston 1 Josey, Ogburn area, drilling in sidetracked hole 6,228 ft.
Christian-Carpenter 1 Rorick, SW of discovery well, Ogburn field, Blk. 25, first report.

Jackson County

Pure 1 Frank Spacek, William Menefee Sur., SW of Ganado, moving in, first report.
Stanolind 1 American Realty, R. Grimes Sur., drilling shale 8,000 ft.

Liberty County

Gulf 1-A Phoenix Development Co., deep test SE flank, Hull field, drilling shale 6,257 ft.
Stanolind 3 Seaberg, Martha field, drilling shale and lime 7,986 ft.

San Jacinto County

Harrison & Abercrombie 1 Sun Oil Co., Shepherd area, W. Hays Sur., drilling shale and lime 7,818 ft.

MICHIGAN OPERATIONS

Gladwin County Discovery Gets Three New Locations

By OTTO C. PRESSPRICH

SAGINAW, MICH., Aug. 26.—The Adams Township discovery area of Arenac County and the vicinity of the Hamilton Township strike in Clare County continued last week, as the rest of Michigan oil activity ebbed, to be the focal point of interest. Three tests were getting under way in Hamilton Township, where Sun Oil Co. is completing the discovery well and controls most of the acreage.

Sun has a permit for an east offset for its No. 1 McGregor; Oxidermo Products, Inc., is building road to location for a test a mile west and a mile south of the McGregor discovery, and Freeman Oil Co. is starting operations two locations south and four east of the Sun well. Sun tubed its well last week after it came in with a natural flow of about 60 bbl. an hour and also was making good progress with its No. 2 Cameron in Section 10 of Grout Township, Gladwin County. An offset test, the well was reported to have some oil in the hole.

The completions report listed 16 completions last week, a majority of them wildcats that were dry, only two being commercially productive. One was a well good for 240 bbl. naturally, completed in Dundee Township, Monroe County, by James A. Brailey. The other was Smith Petroleum 3 Fenske in Tallmadge of Ottawa, which rated 199 bbl. initially after acid treatment. James E. Flanigan completed a test in Overisel of Allegan that produced 7 bbl. a day, but salt water apparently spoiled what chances the well might have had.

Among the wildcat failures were deep tests in Missaukee and Osceola counties, both having been drilled to below 4,000 ft. There were some evidences of a new pool in Casco Township of Allegan County, where a wildcat in Section 34, drilled to 1,115 ft. by A. R. Urion, was being tested after a show of oil. It was to be acid treated.

For the first time in many weeks there were no completions in Kent County, a broken sand line forced delay in the Wicklund 1 Eberhart extension test in the Wise pool of Midland County, while another Wise completion was dry, as was one in the Sherman district and in Winn Township Chapman and McClanahan Oil companies, drilling the Peacock wildcat in Section 22, was down around 1,375 ft. after passing a heavy gas pay in the stray.

Anticipating that the Hamilton discovery may be the forerunner of a big field, the Michigan Oil Advisory Board has decided to meet September 9 to determine whether to order 20-acre spacing for wells. The Adams sector also is being watched with the same intent. Meanwhile, P. J. Hoffmaster, state supervisor of wells, was given authority to take any action he should deem necessary to prevent waste.

Aside from the three permits for Hamilton Township, 17 others were issued last week by the state Conservation Department. Listed for 16 townships in 11 counties, they included one for a new test in Roscommon County. Other wildcat tests were permitted for Cass and Mecosta.

MICHIGAN COMPLETIONS

Allegan County

Dorr Township: Union Oil 1 Stankey, NE SE SW 23-4n-12w, wildcat. Dry, Traverse, T.D. 1,682 ft.
Heath Township: Clapsaddle & Harris 1 J. Jopping, NW NW NW 10-3n-14w. Dry, Traverse, T.D. 1,585 ft.
Hopkins Township: N. R. Dodd 1 Frank Hazen, SW NW SW 11-3n-12w. Dry, 685 ft.
Overisel Township: James E. Flanigan 1 S. S. Wolters, NW NE SE 15-4n-14w, 7 bbl., with much salt water in Traverse, T.D. 1,555 ft.

Berrien County

Berrien Township: Michi-Cal Oil Co. 1 Henley Lybrook, SE SW SE 30-6s-17w. Dry, T.D. 696 ft.

Isabella County

Sherman Township: Cryden Petroleum 1 Miller, NE SW SW 20-15n-6w, wildcat. Dry, T.D. 3,780 ft.
Wise Township: Twin Drilling 1 Methner, NW SW NE 33-16n-3w. Dry, T.D. 3,768 ft.

Kalamazoo County

Prairie Ronde Township: M. L. Morton 1 Kline Brothers, SW SE NE 29-4s-12w, wildcat. Dry, Traverse, T.D. 1,183 ft.

Missaukee County

Lake Township: Century Oil & Gas Co. 1 Anderson, SE SE SW 14-22n-8w, wildcat. Dry, Monroe, T.D. 4,054 ft.

Monroe County

Dundee Township: James A. Brailey 3 R. and D. Roe, SW NE SW 30-6s-6e, 240 bbl. naturally, T.D. 2,086 ft.

Newaygo County

Bridgeton Township: Charles D. Hoffman 1 F. Wilde, NW SW NE 17-11n-14w, wildcat. Dry, Traverse, T.D. 2,100 ft.

Osceola County

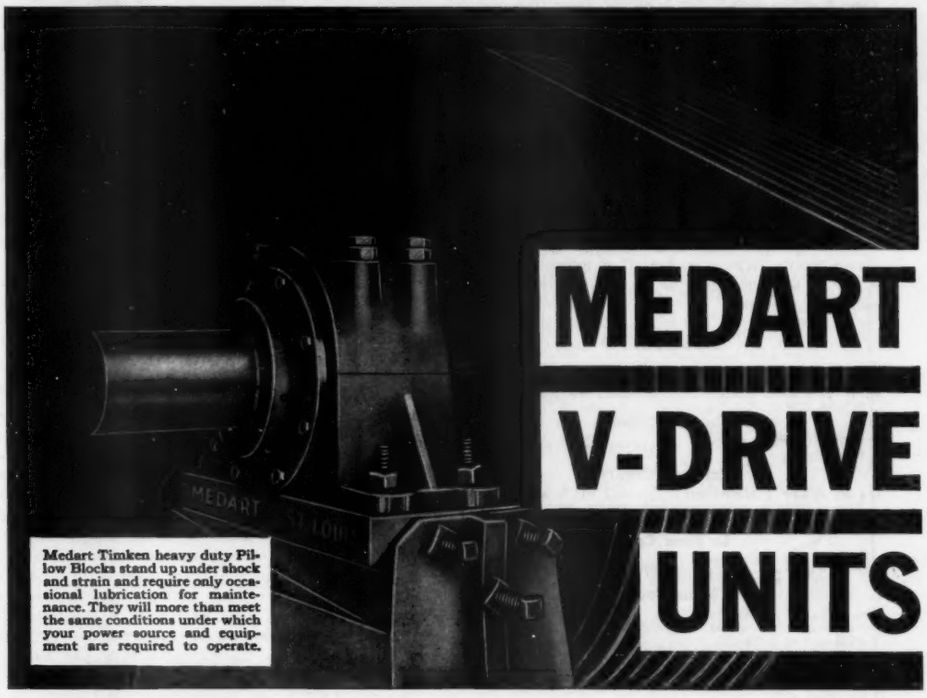
Sylvan Township: C. L. Maguire, Inc. 1 Maggie Armstrong, C S½ SW NW XX-18n-7w, wildcat. Dry, Dundee, T.D. 4,031 ft.

Ottawa County

Blendon Township: Bell-Marks, Inc. 1 H. Grasmeyer, SE SE NW 25-6n-14w, wildcat. Dry, Traverse, T.D. 1,767 ft.
Park Township: Hugh H. Heinig 1 E. Visscher, SE NE NE 1-5n-16w, wildcat. Dry, Traverse, T.D. 1,567 ft.
Tallmadge Township: Smith Petroleum Co. 3 Reinhard Fenske, NE SE NW 34-7n-13w, 199 bbl., acid, T.D. 1,871 ft.

Van Buren County

Geneva Township: Smith Petroleum Co. 1 William Mele, NW NW NW 27-1s-16w, wildcat. Dry, Traverse, T.D. 1,058 ft.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Two Large Blocks Assembled For Interesting Tests

By
T. R. INGRAM

DENVER, Colo., Aug. 26.—General Petroleum 55-21-G, discovery well in Lakota sand on Cole Creek, Natrona County, Wyoming, pumped 200 bbl. per day from the Shannon sand when plugged back to that horizon. Stanolind 8-A Unit, in Salt Creek, old well deepened from the Wall Creek to the Sundance, made 60 bbl. initially. Only completion in Lance Creek was Ohio 7 Agnes Rohlff, for 2,640 bbl. from first and second Leo. Yale Petroleum 1-B Frisby, Oregon Basin, made 250 bbl. initially from the Embar. Two completions in Kevin-Sunburst made 50 and 60 bbl., respectively. One wildcat in Choteau County was abandoned in Petroleum Security 1 Johnson. Continental 109 Rattlesnake was dry and abandoned in Northwest New Mexico. Petroleum Products 10 Hospah, in McKinley County, was completed for 69 bbl.

New operations included two in Cut Bank, three in Kevin-Sunburst, and a wildcat for the Montana Gas Corp. east of Kevin-Sunburst.

Wildcats around the Baxter Basin gas field in Sweetwater County, Wyoming, are all at interesting depths. A test is scheduled for the La Grange district northeast of Cheyenne.

COLORADO

El Paso County

F. F. Hintze 1 State.....CEL SE SE 16-11s-60w
S.D. 1,620 ft.

Garfield County

Joe T. Juhan 1 Clough.....NW SE 22-6s-94w
Rigging up.

Huerfano County

Ira E. Miller 1 Hamilton.....SE SE NW 20-29s-67w
T.D. 1,606 ft., cleaning out. (Deep test east of La Veta.)

La Plata County

Nick Spatter 1-X Bryce.....SW SW 31-33n-9w
T.D. 3,906 ft., cementing off caves.

Logan County

West Plains 1 Sheldon.....SE NW SW 3-10n-55w
Drilling below 2,000 ft. after shutting off water with 10¾-in. at 1,736 ft.

Moffat County

Steamboat Springs Synd. 1 Sutton NE NE SW 1-5n-96w
Drilling 2,246 ft.
Texas 2 Wick.....Lot 9, 10-4n-91w
Drilling 4,424 ft.
Mountain Fuel Supply 2-A Kuykendall.....SW NW NW 23-12n-100w
T.D. 2,600 ft., cemented 6¼-in. at 2,596 ft., perf. and testing in three sands by stages.

Park County

South Park Oil 1 Lemar.....NE NE SE 34-11s-75w
Drilling 7,404 ft. in hard brown sand.

Rio Blanco County

Buford Oil 1 Government.....SW SW 16-1n-91w
T.D. 4,160 ft., landed 6¼-in. at 1,005 ft. and underreaming to set on bottom.
Texas-California 4 Unit.....NW NW NW 2-2n-94w
Drilling 4,436 ft.
Raven Oil & Ref. 30.....SE NW NE 31-2n-102w
Drilling 525 ft. (Rangely field).

Routt County

Craig-Moore 1-X Irwin.....SW NE 33-7n-85w
Drilling in red beds 2,410 ft.
Mid-Colorado Pet. 1 Omholt.....NE NE SE 29-4n-87w
Resumed at 3,150 ft. in Morrison. (Fish Creek).

WYOMING

Big Horn County

Prescott & Mileski 1 Government.....1-51n-93w
Resumed at 1,190 ft., drilled to 1,325 ft. and S.D. for repairs.
Ohio 3 Davis.....NW SW NW 34-56n-97w
T.D. 4,224 ft. in Madison lime, P.B. to 4,100 ft., perf. 6⅝-in. at 4,077-85 ft., acidized and preparing to test.
Frank S. Scott 1 Robertson.....SE SE SE 6-54n-93w
Drilling 865 ft. in Tensleep, top at 863 ft., 6⅝-in. at 787 ft.

Carbon County

Producers Oil 1 Lake Valley.....CNL 14-20n-88w
T.D. 3,752 ft., changing over from cable tools to rotary.

Crook County

Vickers-Continental 1 Duncan-Lobban.....NE NW SW 28-57n-64w
Drilling 1,310 ft.

Fremont County

Logue Trust 1 Wisner.....NE SW 8-33n-98w
Dry at 950 ft. in Cody shale.
Pilot Oil 6 Enos.....SE SE NE 21-3n-1w
Drilling 1,030 ft.
Sinclair-Wyoming 2-A Muskrat..NW SE SW 34-34n-92w
Coring at 5,573 ft. in Lakota, top at 5,537 ft., upper section dry.

Goshen County

Unidentified Texas company is reported to have taken up a large block south of the town of La Grange, in southern Goshen County, 6 miles west of the Nebraska line, and to be engaged in leasing north of the town. Same sources say the company is planning a deep test on the south block. Several structures on the line of folding running southeast from the Lance Creek field have received considerable attention in the past. Ohio Oil Co. drilled several tests in the northern part of the county near Jay Em in 1936. Foreman Oil Co. drilled to 5,040 ft. near Torrington in 1927. In the Lingle district the Phillips Petroleum Co. did extensive core drilling in holes which went from 800 to 1,000 ft. in depth several years ago. In 1923 a deep test was started in the Goshen Hole district, 15 miles northwest of La Grange, but was abandoned at a shallow depth. The old Prairie Oil & Gas Co. drilled a deep test to the east in Banner County, Nebraska.

Lincoln County

H. C. Harris 1 Government....SE NW NW 23-21n-117w
Drilling 3,177 ft. in limestone.
Fontenelle Dev. 1 Pomroy.....NE SW 5-24n-113w
S.D. 1,410 ft.
Robert Miller Taylor 1 State...NE cor. 36-25½n-115w
S.D. 2,040 ft. for repairs.

Natrona County

General Petroleum 55-21-G, NW SE 21-35n-77w, Cole Creek field (formerly No. 1 Government), the discovery well in the Lakota sand at 8,015 ft., in 1938, has been recompleted in the Shannon sand, after plugging back, for an initial production of 200 bbl. per day through perforations in the 11¾-in. casing at 4,509-39 ft. The hole showed some oil in the Shannon on the way down, but was not tested. Subsequently good production was developed in other wells in that horizon and it was decided to plug back and test with results noted. Location is a little more than ½ mile south of the four wells drilled on an east-west line near the north line of Section 21. Its No. 71-21-G, most easterly of the Shannon wells, is a near completion.

Stanolind Oil & Gas Co., operator for the Salt Creek Unit, completed its No. 8-A Unit, NW NE 26-40n-79w, for 60 bbl. per day through a 3/32-in. choke on the 2-in. tubing at 2,957 ft. in the lower Sundance. This is an old producer in the Wall Creek deepened to the Sundance and the first of a series of old wells to be carried down to the lower horizon.

Iron Creek Oil 7.....SW NW 11-32n-82w
Drilling 720 ft.
Royalty Oil 1 Midert.....SW SW SW 26-35n-80w
Drilling 1,555 ft.
Lewis Gebhart 1 Government..NW NE SE 10-39n-78w
Drilling 1,742 ft.
General Pet. 71-21-G.....NE NE NE 21-35n-77w
T.D. 4,598 ft., rigging up for pump test of Shannon sand.
General Pet. 7-22-P.....NW SW SW 22-35n-77w
Spudding.

Niobrara County

Lance Creek had one completion in Ohio 7 Agnes Rohlff, NW NE SE 32-36n-65w, which made 2,640 bbl. initially from the first and second benches of the Leo at 5,331 ft., after plugging back from 5,449 ft., and perforating the 7-in. casing with 90 shots at 5,225-32 ft. It had water in the third bench and did not go to the fourth.

Hearings were begun at Lusk on August 19 in actions started last February by the Department of the Interior to clear the Government's title to several hundred acres of land in the East Lance Creek district which are under lease to or operated by the Ohio Oil Co., the Argo Oil Co., and the Continental Oil Co., the latter through the Buck Creek Oil Co., which it controls. District Judge Harry P. Ilsley is hearing the testimony as representative of the Interior Department. First case was that of the Ohio Oil Co.'s No. 7 Leo lease claim. The claims involved were taken up under the old placer-mining laws and the issue involved is whether work leading to a discovery was prosecuted diligently under the laws in effect at that time up to October 16, 1918, when the land was withdrawn from entry. The department announced in Washington when the actions were instituted last February that 31 cases comprising 2,500 acres were involved and that the Government seeks to have this land returned to the public domain. There are a number of large producers on some of the claims and proceeds from production have been impounded pending the outcome. The hearing was adjourned after 2 days to be resumed at Cheyenne.

Continental 7 Apex-3.....SE SE NW 34-36n-65w
Drilling 2,905 ft., cemented 7-in. at 321 ft. with 200 sacks.
Ohio 16 Putnam.....SW SW NW 4-35n-65w
T.D. 5,529 ft., P.B. to 5,391 ft., testing.
Ohio 17 Putnam.....NW SE SW 33-36n-65w
Drilling 3,745 ft., cemented 11¾-in. at 305 ft.
Ohio 17 Lamb-Acct. 1.....NW NW NE 5-35n-65w
Drilling 4,410 ft., top first Sundance 3,610 ft.

Park County

Yale Petroleum 1-B Frisby, SW NE NE 31-52n-100w, north dome, Oregon Basin field, was completed in the Embar at 3,628 ft., total depth, for 250 bbl. the first 24 hours on the pump. The 8⅝-in. was cemented at 3,578 ft.

V. M. Kirk 3 Government....NW NW SW 24-58n-98w
T.D. 3,017 ft., testing, swabbed 420 bbl. the first 24 hr.
Resolute 2 State.....SW SW 16-57n-101w
Coring 9,983 ft. in top Lakota.

Sublette County

Texas 1-F.....SW SW SW 27-27n-113w
Drilling 108 ft.
Texas 1-H.....CWL NW SW 2-27n-113w
T.D. 1,140 ft., testing after a shot.
North La Barge Oil 1 Govt. ..CNL NE SW 21-27n-113w
Drilling 697 ft.

Sweetwater County

Three wildcats drilling on the flanks of the Baxter Basin gas areas are all at interesting depths, and while no new production has been discovered up to this time, the information from all of them is that the beds so far penetrated are normal and show good sections of sand formations. The deepest is the Red Desert 1 Aspden, on the east side of North Baxter Basin, which is coring in the Sundance at 3,908 ft. The top was approximately 3,650 ft. and appears to be running high. The Sundance section here is estimated to be around 400 ft. thick and if conditions continue as expected the drillers look for saturation at 100 to 150 ft. below present bottom, which is the main objective. Gus Pongratz 1 Clark, on the southwest flank of North Baxter Basin, had the top of the Dakota at 3,170 ft. and is drilling in sand at 3,767 ft., but results are not known at this writing. The other test is the Union Gas 1 Hummer, on the flank of South Baxter Basin. This operation has been taken over by A. B. Cobb, who has installed a rotary and is going ahead at 2,075 ft. in the second Wall Creek. Interest in the area is enhanced by several factors which point favorably toward the discovery of oil on the flanks in sands which produce gas on top or to the finding of oil in lower horizons than have so far been drilled.

Farson Oil & Gas 1 Government....SE NE 18-25n-108w
Drilling 592 ft.
Union Gas 1 Hummer.....NW NW NE 6-17n-103w
Drilling 2,075 ft. in second Wall Creek.
Mountain Fuel Supply 1 Murphy SE SE SE 27-17n-104w
S.D. at 4,156 ft.
Gus Pongratz et al 1 Clark.....NW NE 22-19n-104w
Drilling 3,767 ft. in hard gray sand.
Red Desert Corp. 1 Aspden..NW SW NW 34-18n-103w
Coring in Sundance at 3,908 ft.
Vermilion Oil 2 Government...SW SW SW 7-12n-99w
S.D. 3,002 ft.

Uinta County

McCurdy-Morgan 1.....SE SW SW 32-19n-116w
Spudding 60 ft. (Cumberland district).
Elynor Oil 1.....NE SE SE 6-18n-116w
Drilling 555 ft.

Washakie County

J. E. Longnecker 1.....CSL SW NE 24-47n-90w
Drilling 46 ft., 8¼-in. cemented 16 ft., show oil 44-46 ft. (Sherard structure).

Weston County

Joseph Dornacker 1 Kinney-Collins NW NE 33-45n-61w
Drilling 120 ft.
Lanam Crowley 1.....SW SW NW 8-46n-63w
Rig on ground.
Charles Stough 12.....CWL SW NW 4-46n-63w
Drilling 157 ft.

Pierre La Fleishe 1 Dober....NE NE NE 21-45n-63w
Drilling below 700 ft., rotary.
John Brorphy 1 Hansen.....NW NE NW 13-44n-63w
Drilling 1,232 ft., test to Muddy sand.
Wheedon Oil 6 State.....CSL NW NE 16-46n-63w
Drilling at 150 ft.

MONTANA

Big Horn County

Massey Oil & Gas 1 Government..SE SW SE 11-2s-31e
Drilling 218 ft. in Carlile shale, 10¾-in. cemented at 102 ft.

Blaine County

Cherry Ridge Synd. 1 Harbolt...NW NW SW 1-35n-20e
Drilling 20 ft. in Bearpaw shale.

Carbon County

Continental 1 Prigge.....SE SE SE 33-9s-25e
Drilling 2,648 ft.
R. C. Tarrant 2 McKay.....SE NW 4-6s-18e
S.D. at 3,057 ft.

Choteau County

Security Petroleum 1 Johnson, NE NE 23-26n-3e, Genou district, was plugged and abandoned at 2,225 ft., total depth, upon finding water in the first break below the Madison lime contact. The contact at 2,120 ft. had water.

Fergus County

E. & M. Oil & Gas 4.....SW SE SW 34-22n-18e
S.D. 528 ft., water in Eagle sandstone, 5 7/16-in. at 495 ft.

Glacier County

Cut Bank had two new operations, no completions.

Texas 10 Tribal-122.....CEL NW SE 6-32n-5w
Location (first report).
A. R. Pardue 1 Tribal.....SW SE NE 19-32n-5w
Building rig (first report).
Montana-Dakota 1 Tribal-112..SW NW NE 16-35n-6w
Drilling 600 ft.
Glacier Prod. 1 Delaney unit.....C 36-34n-5w
Drilling 430 ft., top Colorado 309 ft., cemented 10¾-in. at 365 ft.
Montana Headlight 7 Britton...NW NW SE 11-34n-6w
Cemented 10¾-in. at 523 ft., top Colorado 523 ft.
Santa Rita 4 Government.....CSL NE SE 4-32n-5w
Drilling 1,925 ft.
Hannah-Porter 5 Allot.-130 ...CWL NW SE 6-32n-5w
Drilling 1,500 ft., top Colorado 550 ft.
R. C. Tarrant 2 fee.....NW NW SE 19-34n-5w
Drilling 2,250 ft.
A. B. Cobb 1 Teterud.....NE NE NE 24-37n-5w
Swabbing 8 bbl. a day from sand at 2,695-2,704 ft.
Glacier Prod. 3 Hall.....C NW SE 35-36n-6w
Running 7-in. at 2,930 ft.
Texas 3 Unit 11.....CWL SW NW 11-35n-6w
Drilling 2,653 ft., set 8⅝-in. at 2,615 ft.
Texas 7 Hinkle.....NE NW NE 2-34n-6w
Cemented 7-in. at 2,769 ft.

Liberty County

Western Natural Gas 1 Wilson..NW NW NW 27-37n-4e
Drilling 1,200 ft.

Pondera County

R. C. Tarrant 1 Lang.....SE SE NW 14-31n-5w
Drilling 2,150 ft.

Stillwater County

Texas 1 Unit.....SE NW 10-4s-19e
T.D. 825 ft., reaming at 500 ft. to set 13⅜-in.

Toole County

Extensive leasing in which approximately 12,000 acres in four townships east of the Kevin-Sunburst field were blocked up last year by Harry Roe, of Denver, and others, was for the Montana Gas Corp. as disclosed by the transfer of most of this acreage to that corporation and placed on record the past week. Mr. Roe, who was with the Midwest Refining Co. until that company was absorbed by Standard of Indiana, died in Denver about 2 months ago, but the leases were delivered by him prior to his demise. He worked in cooperation with H. C. Brettschneider, former vice president, and Harry Aurand, former geologist, for the Midwest. The block is located principally in Townships 34 and 35n, Ranges 1 and 2e. Part of this block is in a district recently mapped by the U. S. Geological Survey. Leasing was on geology by Mr. Aurand. Location for test has been made on the Nelson farm in 12-35n-1e.

Kevin-Sunburst had two completions and three new operations.

Enfield Oil 3 Zacher, NW NW 20-35n-1w, is pumping 50 bbl. a day at 1,601 ft., total depth, from break in the Madison lime, after acidizing with 1,000 gal. Contact at 1,591-99 ft. was dry.

Coolidge & Coolidge 8-A State, NW SE NW 36-36n-2w, pumped 60 bbl. a day at 1,636 ft., total depth, from the Sunburst at 1,601-36 ft.

Montana Gas 1 Nelson.....SE NE 12-35n-1e
Rigging up (first report).
Montana-Dakota Utilities 3-311 .....NE SE 34-34n-1w
Drilling 415 ft. (first report).
Casper T. Oien 10 Engoeman..NE SW NW 14-35n-3w
Spudding at 40 ft. (first report).
Pacific National 1 Davidson . . SW NE NE 28-35n-3w
Drilling 635 ft. (first report).
Montana-Dakota 1 Lake City.....NE SE 17-33n-2e
Drilling 250 ft. in Colorado shale.
Frank P. Walsh 1 Mowat .....SW NW SE 7-33n-2e
Drilling 50 ft. in Colorado shale.
B. A. S. Aronow 4 Ellingson..CEL SW SW 14-35n-3w
S.D. 1,055 ft.
Kippen O. & G. 2 Solberg ... CSL NW NE 20-35n-3w
Cemented 8¼-in. at 1,070 ft.
Twin Fields Oil 2 Government SE SE SW 21-35n-3w
T.D. 1,767 ft., contact at 1,746-54 ft., show oil in break at 1,767 ft.
Morton O. & R. 9 Morton.....NW NW SE 13-34n-2w
S.D. 1,200 ft.
Twin Falls Oil 1-A Govt. ....NW NW NW 28-35n-3w
S.D. 1,732 ft.

NORTHWEST NEW MEXICO

Bernalillo County

Norins Realty 2 Pajarito.....22-9n-1e
Cleaning out to resume at 2,000 ft., contract depth 3,500 ft.

McKinley County

Petroleum Products 10 Hospah, CEL SE SW 36-18s-9w, Hospah field, was completed at 1,665 ft. in sand at 1,630-62 ft. for 69 bbl. a day.

Petroleum Products 11 Hospah..SE NW SW 1-17n-9w
Rigging up (first report).
Teague, Greer 1 Santa Fe.....33-18n-10w
Drilling below 1,200 ft.
Petroleum Producers 9 Hospah..NW NW SE 1-17n-9w
T.D. 1,570 ft., testing, may abandon.

San Juan County

Continental Oil 109 Rattlesnake, NW NW NE 12-29n-19w, was dry in the Dakota and abandoned at 969 ft., total depth. No new location has been made and this probably closes the shallow drilling campaign which has been in progress for the past 2 years in which one string was kept operating continuously.

Claude Carroll 1 Cornell.....SW NE 11-29n-12w
Drilling 1,340 ft.
Kutz 1 Government.....NW NW 28-28n-10w
Drilling 1,650 ft.

San Miguel County

Southwest Drilling 1 Conchas.....NW NE 34-17n-21e
Drilling 2,630 ft. in hard gray lime.

UTAH

Box Elder County

Utah Dutchess 1.....NW cor. 26-14n-8w
Drilling 400 ft.

Daggett County

Mountain Fuel Supply 5 Murphy SW NE SW 15-3n-24e
Drilling 4,977 ft.

Grand County

Reeder Corp. 1 State.....NE NE NE 16-22s-19e
T.D. 1,060 ft.

Summit County

Longwell Pet. 1.....SE SW SE 35-3n-5e
Underreaming 4¾-in. to set on bottom, T.D. 3,348 ft.

Louisiana Gulf Coast

(Continued from Page 73)

pect, T.D. 10,847 ft., fishing.
Hamman Exploration Co. 1 Sabine Rice, 3-11-11w, drilling shale 9,210 ft.

Cameron Parish

Superior 3 State, Calcasieu Lake dome, drilling shale 11,276 ft.

Evangeline Parish

Danciger 1 Hirsch, outpost well, Ville Platte field, drilling shale 9,828 ft.

Jefferson Parish

Shell 1 State, Bayou des Illettes area, 27-20s-24e, T.D. 9,520 ft., running 9⅝-in. casing.

Jefferson Davis Parish

Continental 1 Krielow, outpost test, South Roanoke field, T.D. 9,853 ft., running electrical survey.

La Fourche Parish

Tide Water 2 Delta Farms, southwest of discovery well, Delta Minerals field, drilling shale 7,026 ft.

Plaquemines Parish

Gulf 1-E Buras Levee District, West Bay prospect, drilling sandy shale 11,266 ft.
Gulf 1 State, Black Bay prospect, drilling shale 4,476 ft.

Rapides Parish

Rantex 1 Clark, Lecompte prospect, S.D. 7,100 ft.

St. Martin Parish

Texas 14 St. Martin Land, Plumb Bob field, drilling in sidetracked hole 8,212 ft.

St. Mary Parish

Sun 1 Bell Ise Corp., Bell Ise dome, T.D. 11,117 ft., fishing for stuck drill pipe.
Texas 5 Wax Bayou, Bateman Lake field, drilling shale 10,674 ft.
Texas 4 St. Mary Land Co., Horseshoe Bayou field, T.D. 8,872 ft., fishing for stuck drill pipe.

Terrebonne Parish

Stanolind 1 State, Bay Junop dome, drilling shale 10,725 ft.

Vermilion Parish

Humble 1 School Board, ½ mi. due west of discovery well, Erath field, drilling shale 10,237 ft.

Illinois Fields

(Continued from Page 70)

Pumped 105 bbl., 20-qt. shot, Benoist 2,680-90 ft., T.D. 2,697 ft.
Sun 1 H. J. Garner.....NE NE SW 1-5s-10e
Flowed 351 bbl., McClosky 3,010-13 ft.
Exchange 2 Pearce.....SW SW NW 12-6s-9e
Pumped 160 bbl., Vienna 2,247-52 ft., T.D. 2,254 ft.
Eason 1 Storms-C.....NW NW SE 23-6s-9e
Dry, Tar Springs 2,271-79 ft.
McBride 2 Green-Starr.....SE SW NE 25-6s-8e
Pumped 4 bbl. oil, some water, show oil and gas 3,018 ft., Hardinsburg 2,508 ft., T.D. 3,278 ft., P.B. to 2,525 ft.
Shell 3 M. J. Beagle.....NW SE SE 6-6s-8e
Pumped 214 bbl., 15-qt. shot, Weiler 2,676 ft.
Eason & Marshall 1 Pearce.....NE SE NW 2-7s-10e
Dry, Bethel 2,710 ft., Aux Vases 2,777 ft., Ste. Genevieve 2,800 ft., St. Louis 2,984 ft., T.D. 2,993½ ft.

ILLINOIS DRILLING REPORT

Clark County

Snavely 1 Schofield.....SE NE SE 6-11n-11e
Trenton 3,272 ft., drilling 3,597 ft.
Strickler 1 McFarland .....NW NE SW 19-10n-13w
Trenton 2,760 ft., show oil 2,760-63 ft., Devonian 1,530 ft., T.D. 2,833 ft., P.B. to 1,554 ft., bailing water.

Clinton County

Barton et al 1 Storer.....SW NW NE 13-1n-1w
Trenton test, drilling 3,184 ft.
Thompson 1 Knolhoff.....NW NW SW 11-1n-2w
Cypress 1,175 ft., no Benoist, T.D. 1,335 ft., P.B. to 1,198 ft., est. 25 bbl. oil, testing.

Crawford County

Bell Brothers 1 Kersey.....NE SE NE 1-5n-12w
Saturated McClosky 1,416-27 ft., D.S. test no oil, drilling 1,500 ft.

Edwards County

Superior 1 M. Works .....NW NW SW 18-2s-11e
Waltersburg 2,338-40 ft. show oil, Golconda 2,635 ft., Bethel 2,925 ft., drilling 2,928 ft.

Fayette County

Poland et al 1 Morrow.....SW SE SE 7-5n-1w
Elev. 529 ft. Glen Dean 980 ft., Cypress 1,160 ft.,

B-M-W
Balls and Seats

Chromard—Genuine Stainless Steel. Most widely used Ball and Seat in the oil fields of the world.

Monarch—Hardest of all non-corrosive Balls and Seats. Outstanding results under most severe conditions.

Bramo—General purpose Ball and Seat. High grade alloy steel. Moderate cost. Very efficient.

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Bi-Metal—Combination of CHROMARD seat with EXTRARD BRONZE Ball.

Extrard Bronze—Extremely hard bronze alloy. Withstands lodestone conditions. Resists strong corrosive agencies.

The above standard types will efficiently and economically care for most pumping conditions. Also, for services that are TRULY SEVERE and where LONG LIFE is of importance, we recommend our recently developed:

B-M-W 2-WAY NON-MAGNETIC CROWN

Complete data on request. See the advertisement in the "Composite Catalog."

IN ADDITION TO BALLS AND SEATS

Other B-M-W products are sold by leading supply stores: ● ADMORE Insert Pump Anchors; ● NEILSON Tools (Safety Sucker Rod Hooks, Tubing Hooks, Rod Elevators, Sucker Rod Sockets, etc.); ● ADMORE Liner Barrels; ● TEX TYPE Plunger Fittings and Valves; ● COLLINS Belt Clamps; ● FLUID-LIFTER Pumps; ● NU-TEX Pumps and Valves; and ● TOWER TYPE Balls and Seats.

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OIL WELL SUPPLIES
BRADFORD, PA. — TULSA, OKLA.

Bethel 1,270 ft., Benoist 1,279 ft., Ste. Genevieve 1,388 ft., St. Louis 1,540 ft., drilling 1,911 ft.

Ford County

Nelson et al 1 Erp.....SW NW SE 19-24n-7e Base Pennsylvanian 660 ft., Devonian 800 ft., drilling 1,535 ft.

Gallatin County

Egyptian Tie & Lumber 2 fee....SE NE SW 16-8s-10 Water 1,435-45 ft., S.D. 1,576 ft.

Hamilton County

Texas 1 N. Adams.....N½ NE NW 8-4s-7e Menard 2,480 ft., Tar Springs 2,610 ft., Golconda 2,833 ft., Cypress 2,985 ft., Benoist 3,128 ft., Aux Vases 3,322 ft., Ste. Genevieve 3,342 ft., McClosky 3,432 ft., drilling 3,457 ft.

Jefferson County

Young 1 Whittington.....SE SW NE 10-4s-3e Elev. 414 ft. Salem 3,270 ft., drilling 3,480 ft.

Marion County

Kingwood 1 H. V. Spencer.....NW NW SW 19-3n-3e Menard 1,628 ft., Golconda 1,697 ft., Benoist 2,180 ft., drilling 2,225 ft.

Macoupin County

Steward 1 Carlinville National Bank.....NE NE NE 35-9n-8w Slight show oil, Pottsville 477-80 ft., Salem 600 ft., saturated lime 600-12 ft., drilling 780 ft.

Montgomery County

Randall & Witt 2 Street.....N½ NE SE 31-11n-5w Devonian 1,784 ft., S.D. 1,857 ft., sulfur water.

Ewing 1 Waggoner.....SW SE SW 29-11n-5w Ste. Genevieve 535 ft., slight show oil and gas 570 ft., T.D. 650 ft., P.B. to 580 ft., 20-qt. shot, swabbed 95 per cent water.

Washington County

Gass 1 Kasten.....NW NW NE 13-1s-2w Base Pennsylvanian 1,014 ft., Glen Dean 1,179 ft., Golconda 1,245 ft., Cypress 1,348 ft., Benoist 1,536 ft., S.D. 1,547 ft.

Logan County

Bay 1 Lake.....NE NE SW 11-20n-2w Keokuk 1,065 ft., Fern Glen 1,165 ft., Kinderhook 1,255 ft.

Forest City Basin

(Continued from Page 84)

Johnson-Capps, SW SW SW 31-64-15e, Adair County, had St. Peter sand at 1,045 ft., Arbuckle lime 1,130 ft., and was reported dry and abandoned at 1,163 ft. H. A. Black 1 Schempp, SW SW SW 21-62-10w, Knox County, had sand with a showing of oil at 541 ft., was bottomed at 543 ft. and underreaming at 520 ft.

Chillicothe Syndicate 1 Linton, C W½ SE 15-56-23w, Livingston County, was running pipe after getting a showing of oil in Arbuckle lime at 1,142 ft.

North Texas Fields

(Continued from Page 89)

WILDCAT OPERATIONS

Brown County

F. Brittain 1 G. R. McEnloe, 1,130 ft. NE, 300 ft. NW lines of J. Williams Sur. 33, 1,800-ft. test, S.D. 50 ft.

Callahan County

N. D. Gallagher 1 E. Grisson, SE part Sec. 2, Blk. 8, S.P. Sur., S.D. 1,465 ft.

Comanche County

C. D. Lane 1 H. W. Strout, 3,080 ft. from N, 2,200 ft. from E lines of E. D. Corbett Sur., Abst. 154, drilling 2,215 ft.

Eastland County

Dobbs Oil 1 Poe, Sec. 37, Blk. 3, H.&T.C. Sur., drilling 1,200 ft.

L. M. White 1 W. H. White, NW part White tract in H. Kendrick Sur., 10 miles S of Ranger, drilling 385 ft.

Fisher County

F. A. Stephenson 1 Maberry, SE SW Sec. 56, Blk. 1, H.T.&B Sur., 3,400-ft. test, location.

Hamilton County

A. J. Caldwell 1 W. W. Jones, 1,002 ft. from NE, 150 ft. from SE lines of W. H. Crowder Sur., S.D. 3,010 ft.

Jones County

Best 1 A. A. McDuff, 5,200 ft. S, 1,100 ft. E lines of J. J. Hughes Sur. 256, set 6⅝-in. casing at 2,040 ft., S.D. 2,315 ft.

Shoults 1 Noble, B. Trevino Sur., 2,300-ft. test, location.

Palo Pinto County

Georgian 1 J. K. Weldon, A. J. Smith Sur., Abst. 393, 2,500-ft. test, S.D. 1,000 ft.

Fred Guyer 1 Dalton, Dalton Sur., Abst. 153, 1,400-ft. test, T.D. 1,840 ft., underreaming 8¼-in. casing.

Parker County

Brown & Gardner Bros. 1 Gilbert, T.&P. Sur., Abst. 1958, casing set 3,905 ft., est. 500,000 cu. ft. gas and spray oil, slight show oil 4,405-15 ft., T.D. 4,690 ft.

C. Leidecker and William Holland 1 J. A. Boyd, NE NE of S 100 acres of A. J. Edwards Sur., 4,500-ft. test, S.D. 2,410 ft.

Tarrant County

Hickey 1 Baltzelle, NE cor. William Scott Sur., drilling 755 ft.

Taylor County

Ce-beth Oil 1 City of Abilene, south shore of Lake Abilene on city property, 4,000-ft. test, prepare set 13-in. casing at 1,700 ft.

Sorrells 1 Young, SE Sec. 37, B.B.B.&C. Sur., 1,800-ft. test, drilling 640 ft.

Stafford County, Kansas, Scene Of Renewed Activity

(Continued from Page 11)

in both Lansing and Arbuckle limes seldom are found in the same immediate area, so a failure or small well in one zone may be a big producer in the other.

Zenith, on the east side of the county, is the most important Misener sand pool in Kansas. The Misener sand is not a genuine stratum extending over wide areas, as is the Lansing-Kansas City lime. It is deposited in patches, varying much in thickness. Some tests drilled at Zenith missed the sand. It is the only sand production in the county and the only Misener production in a radius of many miles.

As a part of a great region in which oil development is comparatively in its infancy, Stafford County undoubtedly has a promising future. There is much to encourage further wildcat exploration and, if market conditions continue to improve as they have in the last few weeks, the current upswing in activity in Stafford County will inaugurate a widespread drilling campaign throughout the county.

London-Malahide Line Making Progress

LONDON, Ont.—Laying of the new 10-in. transmission line of the Union Gas Co. of Canada, Ltd., from the Malahide field in Elgin County to London, a distance of approximately 23 miles, is making rapid progress. The 3-in. and 4-in. field lines to connect with the system have been completed.

Proved best for any type of service. Safe — economical — sure. Extreme heat or bitter cold has no effect on WISCONSIN air-cooled engines. They are the only power plants that are designed for all weather operation.

Built in 12 sizes—1 to 35 H.P.

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MILWAUKEE, WISCONSIN U.S.A.

P-B MUD GUN OPERATED 2520 HOURS

—unnecessary to replace even the nozzle!

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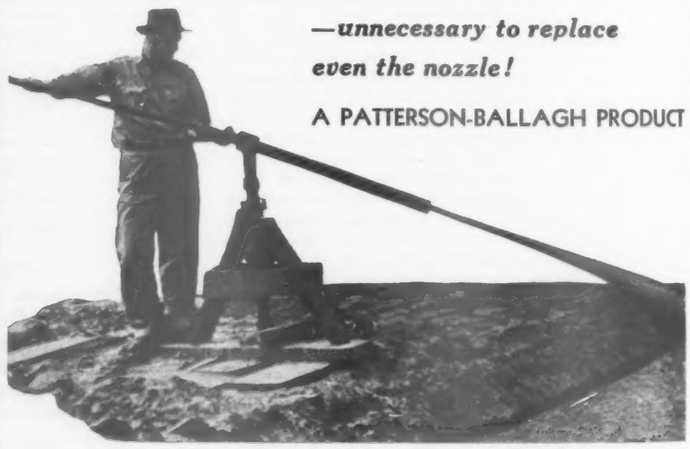

One Operator reports: "We ran the Patterson-Ballagh Universal Mud Gun for 6 weeks, 24 hours per day, under 500-lb. pressure, and ran a total of 2,520 hours. It is still in good running order and it is unnecessary to even replace the nozzle."

See Composite Catalog

PATTERSON-BALLAGH MUD GUN

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Jackson County Wilcox Test Plugged Back to Upper Sand

By
F. L. SINGLETON

CORPUS CHRISTI, Tex., Aug. 26.—The Corpus Christi and Balcones fault-line districts were holding the attention of operators in the Southwest Texas district as production tests were slated to be made at two promising wildcats in Victoria and Atascosa counties.

Humble Oil & Refining Co. was preparing to test No. 1 E. D. Nave, 5 miles southwest of Bloomington, in the M. J. Traviesa grant, Victoria County. Drilled to a total depth of 6,076 ft., 5½-in. casing was cemented on bottom preparatory to testing two sand sections logged by an electrical survey. The sand sections were logged at approximately 5,600 and 5,900 ft., where two unsatisfactory drill-stem tests recovered a small amount of oil and tested several hundred pounds of working pressure.

In the new Duck Bay field, Calhoun County, Coronado Corp. staked location for No. 9-A Welder, 1,425 ft. east of the discovery well. Location for an interesting wildcat was announced by Henshaw Brothers, who are moving in material for No. 1 W. S. McKamey in the Thatcher and Leonard surveys. The well is situated on a large block southeast of the Placedo field and southwest of the Keeran field. Leasing along this particular trend has been active for the past several months, and it is reported that several interesting locations are expected to be announced within the near future.

East Flour Bluff Extension

Production in the East Flour Bluff field, Nueces County, was extended approximately 1,300 ft. southeast as Humble 1-E State flowed 160 bbl. of 43.1-gravity oil daily through a ⅛-in. choke from perforated casing at 6,804-09 ft. Humble 1 Duncan, a southeast-outpost test, is being recompleted following a cement squeeze job at 6,794-6,802 ft., where the well flowed distillate and salt water on a production test.

In the recently opened Baffin Bay field, offshore from Kleberg County, Skelly Oil Co. is preparing to start drilling operations on No. 1-388 State, approximately 3,100 ft. southwest of the discovery well.

Due to salt-water encroachment, Stanolind 1 Ben Ivey, about 1 mile north of the Midway field, San Patricio County, has been killed, and preparations are being made to retest. The well was completed the previous week in the 5,300-ft. sand, flowing 128 bbl. of fluid per day, of which 5 per cent was salt water.

In the Laredo district a revival of drilling activity is anticipated for the north end of the Government Wells field, Duval County, following a new sand discovery by Sun Oil Co., which completed No. 70 L. Weiderkehr for an initial production of 18 bbl. of 30.8-gravity oil per day flowing through a ¼-in. choke. The well was originally completed several years ago in the regular pay at 2,256 ft. and the hole was deepened to 3,183 ft. Sand in the Yegua formation was topped at 2,982 ft., and the well was recompleted through perforated casing at 2,982-85 ft. The discovery of this new sand followed the completion of Magnolia 3 Hahl, which showed for a gas well in sand cored at 2,890-2,904 ft.

A new producing area, approximately 2 miles north of the Cole field, Webb County, was indicated as Magnolia 2 J. Lopez tested dry gas on a drill-stem test at 1,691-99 ft., and the well is drilling below 1,740 ft. Location is in the G.B.&C.N.G. Survey 6. A slight extension to the Glen field, Webb County, was in the making as Holland & Simmons 1-B Bruni is bottomed at 2,184 ft., with 5½-in. casing cemented on top of the sand section at 2,180 ft.

East of the Driscoll field and located in the B.S.&F. Survey 481, Duval County, Continental Oil Co. is rigging up to pump No. 1-B Driscoll after the well failed to flow when tested through perforated casing at 2,530-35 ft. While swabbing, several hundred feet of oil and wash water was recovered. One mile southeast of the Tarancahuas field in the A.B.&M. Survey, Hubble Drilling Co. et al staked location for No. 1 Farias.

A new producer for the Manila field, Jim Hogg County, was in the making as Adams & Lefevre 1 Wood recovered 1,400 ft. of pipe-line oil on a 20-minute drill-stem test at the total depth of 2,620-26 ft., and 7-in. casing was cemented at 2,622 ft. Arkansas Fuel 1 Allen was abandoned at a total depth of 3,006 ft.

Sun 1 Mateo Saenz, approximately 2 miles northeast of the North Rincon field, Starr County, was attracting attention as broken sand with oil and gas showings was cored at intervals from 3,979-4,529 ft., the total depth. A 7-minute drill-stem test at 4,154-75 ft. recovered 57 ft. of gas-cut mud and tested 500 lb. working pressure, while a 15-minute drill-stem test at 4,260-69 ft. recovered 39 ft. of drilling mud with an odor of oil. A third test at 4,329-37 ft. recovered 55 ft. of salt water and 10 ft. of oil-cut mud in 17 minutes.

In the Fowlerton area, La Salle County, H. R. Cullen 1 Washburn, which in the previous week showed promise of opening production from the Wilcox sand, has been killed, and the hole has been plugged back preparatory to testing a new sand section at 4,800 ft. This well was originally tested through perforated casing at 5,417-25 ft., where it flowed at the rate of 2½ bbl. of oil per hour and an unestimated amount of salt water. A second test was made at 5,060-70 ft. and the well flowed at the estimated rate of 150 bbl. of fluid per day, of which 40 per cent was fresh water and the balance pipe-line oil. Although complete details of the sand sections are not available, several promising horizons have been logged, and it may be several days before the well is officially completed.

W. J. Walton Drilling Co. 1 Tuerpe, a wildcat located in the Balcones fault-line district in Atascosa County, drilled 7 ft. in the Edwards lime horizon with no showings reported, and casing was cemented to test the Austin chalk formation at 2,400-43 ft., where a good show of oil was logged. A slight showing of oil was also logged in the Buda lime at 2,630-60 ft.

SOUTHWEST TEXAS COMPLETIONS

LAREDO DISTRICT

Duval County

Cedro Hill field: Magnolia 3 Duval County Ranch, 1,445 ft. Dry.
Chiltipin field: Nichols & Hawkins 1 Garcia, perf. casing 4,789-98 ft. and 4,784-87 ft., 12 bbl. oil, 5,000,000 cu. ft. gas, ¼-in. choke, 2 per cent salt water.
Driscoll field: Continental 53 Driscoll, perf. casing 3,335-52 ft., 92 bbl., ¼-in. choke.
Hoffman field: Magnolia 20 Well, 2,794 ft. Dry.
Lundell field: Magnolia 5 Duval County Ranch, perf. casing 1,525-35 ft., 43 bbl., ¼-in. choke.
Tarancahuas field: Cox, Hamon et al 5 Hoffman, perf. casing 2,031-2,140 ft., 122 bbl., ⅜-in. choke.

Hidalgo County

Samfordyce field: Phillips 1 Flores, perf. casing 4,124-28 ft., 87 bbl. oil and 23 bbl. salt water, ⅛-in. choke.

Jim Hogg County

Manila field: Navarro Oil Co. 2 Allen, perf. casing 2,607-09 ft., 77 bbl., ¼-in. choke.

McMullen County

Calliham field: Marion Prod. 1-72 Lark, 995 ft. Dry.

Starr County

Sun field: Sun 4-A Montalvo, 4,914 ft., 112 bbl., 5/32-in. choke.

Webb County

Adami field: F. M. Bozo 2 Adami, sand 990-99½ ft., 11 bbl. oil, 30 bbl. salt water, pumping.
Glen field: Transwestern 1-B Bruni, 2,165 ft., 38 bbl., 3/32-in. choke.
West Cole field: Magnolia 9 Benavides, 2,754 ft. Dry.

Zapata County

Wildcat: Dulup 1 Zorro, 1,941 ft. Dry.
Wildcat: Hagan & Stewart 1 Martinez, 1,500 ft. Dry.

CORPUS CHRISTI DISTRICT

Brooks County

Wildcat: West Prod. 1 Cage, 8,510 ft. Dry.

Refugio County

La Rosa field: Hewitt & Dougherty 3 Possert, 5,750 ft. Dry.

Jim Wells County

Orange Grove field: W. C. McBride 3 Schreade, 5,637 ft., 338 bbl., ⅞-in. choke.
T. H. McElvain 1 Blaschke, perf. casing 5,076-80 ft., 132 bbl., ¼-in. choke.
Wade City field: Rodney DeLange 16 McNeil, 4,946 ft., 310 bbl., ⅞-in. choke.
Henshaw Bros. 1 Schreade, perf. casing 3,906-16 ft., 168 bbl., 5/32-in. choke.
O. W. Killam 10 Wade, 5,505 ft. Dry.

San Patricio County

Midway field: Pal Meadow Oil 2 Coggin, 5,368 ft. Dry.

Victoria County

East Placedo field: Stanolind 11 Vandenberger and Hill, perf. casing 6,872-74 ft., 192 bbl., ⅛-in. choke.

Nueces County

Wildcat: Texas Conservative 1 T. H. Isensee, 7,510 ft. Dry.

SAN ANTONIO DISTRICT

Bexar County

Wildcat: Roger Putnam 2 Conaway, 556 ft. Dry.

SOUTHWEST TEXAS WILDCATS

Bee County

Heyser, Heard, Clardy & McClung 1 Heard, H. R. Eyles Sur., T.D. 4,815 ft. Dry.

Bexar County

John C. Durst & Putnam 2 Conaway, J. H. Lucas Sur. 54, T.D. 555 ft., testing oil show 528-30 ft.

Brooks County

H. H. Howell 1 Cantu, Share 5-C La Almeda grant, spudded.
Sun 1-A Boedeker, 15 mi. S Falfurrias, Sur. 16, coring hard sand 5,858 ft.

Duval County

Hubbel Drilling 1 Farias, A.B.&M. Sur., Sec. 132, first report.
Magnolia 2 Lopez, 7 mi. NE of Bruni, drilling 2,192 ft.

Jim Wells County

F. J. Hynes et al 1 Cocke and Lawrence, W. F. Rice Sur., drilling shale 3,947 ft.

Live Oak County

Humphries & Hotchkin 1 C. L. Holmes, B. Haughy Sur., T.D. 1,842 ft., waiting for cement.
Edwin M. Jones 1-B George West, L. A. Fant Sur., drilling shale 6,125 ft.
Edwin M. Jones 2-B George West, G. L. Hass Sur. 59, drilling 1,135 ft.

Nueces County

A. D. Corgey 1 Gallagher, J. M. Gallagher Sur. 320, T.D. 6,630 ft.
H. H. Howell 1 Schulze, Palo Alto grant, 4 mi S of Banquette, Lot 2, Blk. 2, Ross Peters subdivision, first report.
Southern Minerals Corp. 1 Bluntzer, 5 mi N of Agua Dulce, drilling shale 3,648 ft.

San Patricio County

Norsworthy Prod. 1 McDaniel, Lot 2, Blk. 9, W of Gregory, first report, location.

Starr County

Borsodi 1 Vela, outpost test, Boyle field, perf. casing 3,159-79 ft.

Victoria County

Titantic 1 T. C. Edwards, Bloomington area, drilling shale 6,313 ft.
Frank R. Williams 1 J. D. Wray, Sec. 4, T.&N.O. Sur., first report, location.

Webb County

Tide Water 8 Bruni, Wilcox test, Bruni field, 7-in. casing cemented at 8,838 ft., drilling plug to drill deeper.

Willacy County

Pan American 1 Garcia, 5 mi S of Willamar, drilling shale 3,567 ft.

East Texas Fields

(Continued from Page 92)

Marion County

Henry & Parson 1 W. C. Ralph, Eli Usury Sur., 3 mi. N of Jefferson, set 9⅝-in. casing 1,012 ft., flowing gas and no oil, killed, set 5½-in. casing 6,000 ft., perf. 5,986-98 ft. and 5,974-80 ft., tested gas, small show oil, perf. 5,960-68 ft. and 5,890-94 ft., testing.

Sabine County

Sterm & Womack 1 I. K. Kieth Southwestern Lands, 400 ft. S line, 500 ft. E line, 53-acre tract, L. Grace Sur., T.D. 6,173 ft., twisted off D.S. and lubricated with 100 bbl. oil, fishing.

Shelby County

W. C. Parker 1 F. G. Willey, 480 varas N line, 240 varas E line, 94-acre tract, A. K. English Sur., T.D. 3,482 ft., set 5½-in. casing 3,471 ft., swabbed show oil and gas, acidized with 1,000 gal., S.I.
P. & B. Oil 2 W. C. Windham, A. K. English Sur., set 10-in. casing 170 ft., T.D. 5,335½ ft., pumped 20 bbl., 50 per cent salt water, acid and pumped 5 bbl. oil and 28 bbl. salt water, S.I.
Superior Oil Co. of Tulsa 3 Pickering Lumber Co., 1,620 ft. SE, 660 ft. W easterly NE cor. Thomas Haley Sur., well tried to blow out while drilling at 5,045 ft., cored 5,045-81 ft., no shows.
Union Producing 1-A Mrs. M. E. Garrett, 932 ft. due E of W line, 1,485 ft. N 30° W of S line, W. M. Moody Sur., D.S.T. 4,798-4,898 ft., ¼-in. chokes, working pressure 400 lb., recovered 210 ft. mud and gas, porous lime 4,830-39 ft., 4,866-4,903 ft. and 4,924-32 ft. set 5½-in. casing 4,995 ft., W.O. gage.

MISSISSIPPI AND SOUTHEAST

Tuscaloosa Formation Yields High Gravity Oil at Tinsley

By GEORGE WEBER

JACKSON, Miss., Aug. 26.—Discovery of oil in a sand of Tuscaloosa age at Tinsley highlighted developments in Mississippi and Alabama during the past week. The strike, considered important as the first oil found in commercial quantities in a horizon which produces prolifically to the west in Louisiana and Arkansas, was made in the north end of the Tinsley field, Yazoo County.

Leasing in the two states remained normal and wildcatting continues steady, with several tests being closely watched. Southeastern Mississippi shows most leasing activity for the state at present, although transfers continue throughout the state and along the western and coastal edges of Alabama. Geophysical activity has also centered in Southeast and Central Mississippi, with about 50 crews shooting in that state, and 10 in Alabama.

Tinsley production continued to increase, with all excepting one operator, running considerable quantities to storage and to refineries. The daily average during the past week exceeded 19,000 bbl. as compared with 14,300 bbl. averaged during the previous week.

Tuscaloosa Discovery

Union Producing Co. 1 Powell, located on the north edge of Tinsley production in 36-11-3, last week topped the Tuscaloosa formation at 5,975 ft. and after encountering sand made a drill-stem test at 6,021-93 ft. Recovery showed 1,280 ft. of oil and mud. A second test was made of section at 6,097-6,119 ft. and 130 ft. of oil and 120 ft. of oil and mud was recovered. Operators then cored to 6,129 ft. and made a third drill-stem test at 6,107-29 ft., recovering 800 ft. of oil, 2,450 ft. of oil and water and 370 ft. of clear salt water. An electrical survey run to 6,167 ft. showed the best oil sand at 6,110-20 ft. The well was carried to 6,227 ft., and a string of 7-in. casing set at 6,222 ft. for an early production test. The oil is estimated to run about 45 gravity, which is high compared with other crudes from the Woodruff and Stevens sands in the field. The Tuscaloosa formation has been considered a good possibility for production in the state, and previously tested a heavy oil in another Tinsley well. It is believed that other tests in the vicinity of the No. 1 Powell may find the Tuscaloosa sands if deepened sufficiently. The discovery further enhances the productive possibilities of Tinsley, as well as in Mississippi generally.

Numerous wildcats drilling in Grenada, Jefferson Davis, Jones, Montgomery, Scott, Tallahatchie and Yazoo counties are being watched. In Alabama, the deep test in the Grand Bay area of Mobile County, Tom Daly 1 Fort was abandoned at 6,518 ft. after a shutdown period of several weeks. Plans had been announced for deepening the wildcat previously, since the test had not drilled through the Selma chalk. In Northwest Alabama Mellen & Gear have begun a wildcat in Colbert County.

LEGAL

Department of the Interior, United States Land Office, Cheyenne, Wyoming. Notice is hereby given that a lease of the oil and gas deposits in lot 3 Sec. 25, T. 56 N., R. 97 W., 6th P.M., 51.46 acres, in the Byron oil and gas field, Wyoming, is offered to the responsible qualified bidder of the highest bonus per acre, pursuant to the provisions of section 17 of the act of February 25, 1920 (41 Stat. 437), as amended, at the royalty rate scale in the lease form shown in Circular 1386, at the sale to be held in the office of the Register of the district land office at Cheyenne, Wyoming, at 10:00 o'clock A.M., on September 25, 1940. The successful bidder will be required to deposit on the day of the sale a certified check on a solvent bank, or cash, for one-fifth of the bid, and file a showing of qualifications to receive the lease, required by section 7 of General Land Office Circular 1386. The remaining four-fifths of the amount bid, together with the annual rental in advance, at the rate of $1.00 per acre, must be paid and a $5000 corporate surety bond must be furnished prior to the issuance of the lease. The bidders are warned against violation of the provisions of section 59 of the United States Criminal Code, approved March 4, 1909, prohibiting unlawful combination or intimidation of bidders. The right is reserved to reject any and all bids at the discretion of the Secretary of the Interior. Register.

MISSISSIPPI FIRST REPORTS

Attala County Wildcats

Jones & Crosby 1 J. F. Allen, SW SW 33-13n-5e.

Hawkins, Howell & Mathews 1 Weeks, 330 ft. E, 410 ft. S, NW cor. NW SW 29-15-6e.

Tinsley—Yazoo County

Hassie Hunt 1 Shannon, NW NW NW 14-10-3.

Union Prod. 1-A Adcock, 1,903 ft. S, 713 ft. W NE cor. 24-10-3.

MISSISSIPPI COMPLETIONS

Tinsley—Yazoo County

Magnolia 1 J. J. Milner, NW NW 7-10-2, 555 bbl., open flow, 2½-in. tubing, C.P. 75 lb., Woodruff sand 4,870-87 ft., 7-in. casing 4,877 ft., T.D. 4,887 ft.

Union Prod. 1 Adcock, SE NE 24-10-3, 270 bbl., ⅝-in. choke, perf. 4,900-20 ft., T.D. 4,970 ft.

Union Prod. 5 Twiner, 2,019 ft. S, 2,118 ft. W, NE cor. 1-10-3, 957 bbl., T.P. 60 lb., C.P. 160 lb., perf. 5,466-72 ft., 7-in. casing, T.D. 5,529 ft.

MISSISSIPPI WILDCATS

Grenada County

H. H. Womble and D. H. Williams, 1 Connecticut General Life Ins. Co., 200 ft. S, 150 ft. W, NE cor. NW SE 28-23n-5e. 10-in. casing 100 ft., S.D.

Hinds County

Harvey Robinson and J. P. Frame, 1 Alford, SW SE 18-6n-1e. Set 10¾-in. csg. 750 ft.; D.S. stuck 3,094 ft.; rec. all but 200 ft.; wsg. to btm.

Jefferson Davis County

Exchange, 1 J. J. Newman Lbr. Co., SE SE NE 36-7n-19w. Drilling shale 3,327 ft.

J. W. Richardson, 1 M. Berry, C SW NE 15-9n-19w. Top Selma 6,642 ft., drilling 8,460 ft.

Jones County

T. N. Smith, 1 Hollifield, NW SW NW 20-8n-12w. Drilling 3,742 ft.

R. W. Williams, 1 Eastman-Gardner, NE SW 7-8n-12w. Drilling 5,607 ft.

Kemper County

R. M. Crabb et al, 1 Land, NW NE 12-10n-14e. S.D. 550 ft. (cor.)

Montgomery County

W. O. Allen, 1 J. C. Palmertree, SE SW 30-17-7e. Moving in.

Gulf, 1 Fred Parker, SE SW 22-19n-7e Top Selma 450 ft., top Eutaw 1,265 ft., top Tuscaloosa 1,575 ft., drilling 4,795 ft.

E. R. Henderson, 1 Columbian Mutual Life Ins. Co., 36-21-5e. Drilling 2,755 ft.

Prentiss County

Home Dev. 1 Mrs. A. Allen, 8-7s-9e. Drilling 1,917 ft.

Scott County

Gulf Ref. Co. (E. L. Martin), 1 Newell Mineral Lse. Co., N½ NE NE 5-6n-7e. Drilling 9,837 ft.

Tallahatchie County

I. P. Lerew, 1 L. Westbrook, SE SE 18-23n-2w. Set 9⅞-in. casing 207 ft., drilling 2,180 ft.

Yazoo County

Joe Dawson 1 McGraw Curran, C NW NW 19-11-3. Drilling 695 ft.

Edward DeLoach 1 Wilburn, 6-12-3. Rigging up.

Exchange & Kingwood 5 Wilburn, 440 ft. S, 220 ft. E, NW cor. 31-12n-3e. Coring 5,620 ft.

Exchange and Kingwood, 6 Wilburn, 1,320 ft. S, 440 ft. W, NE cor. 31-12-3 Took sidewall cores; 4,837-ft. sd., stain and odor oil; 4,877-80 ft. sd., no shows; set 7-in. casing 5,806 ft., arranging to deepen.

Hassie Hunt, 3-B Lammons, SE SE 36-11n-3w. Cd. 4,960-85 ft.; rec. sd.; set 5½-in. csg. 5,531 ft.; T.D. 5,570 ft.; W.O.S.R.

E. C. Johnston, 5-B Brumfield, NW SE 2-10-3. Set 5½-in. casing 4,754 ft., W.O.S.R.

E. C. Johnston 6-B Brumfield, SE NW 2-10-3. Drilling 1,516 ft.

Jones & O'Brien Bros., 3-C Stevens, SE NE 10-13-3. Top Woodruff sand 4,707 ft., set casing, waiting on gage.

Magnolia, 2 J. J. Milner, SW SW 6-10-2. Top Woodruff sand 4,963 ft., Perry sand 5,388 ft., D.S.T. 5,382-99 ft., recovered 628 ft. oil, 122 ft. mud and water, set 7-in. casing 5,382 ft.

Magnolia 3 Milner, NW SW 6-10-2. Rigging up.

Petroleum Exploration, 1 L. E. Vandevere, 440 ft. N, 330 ft. E, SW cor., SW SE 25-13n-1w. Drilling 4,830 ft.

Rowan, Hope & Thompson, 1 Cook, 440 ft. S, 330 ft. E, NW cor. 6-11n-3e. S.D. 5,057 ft.

Slick-Urschel Oil, 8 Slick est., NE SE 35-10-3. Set 10¾-in. casing 604 ft., W.O.C.

Union Prod., 1 Powell, SE SW 36-11-3 Cored oil sand and streaks lime and shale 5,358-98 ft., set 7-in. casing 6,222 ft., W.O.C. 6,227 ft.

Union Prod. 1 E. Robinette, 2,053 ft. E, 642 ft. S, NW cor. 19-10-2. Rigging up.

Union Prod. 6 Twiner, NW NE 1-10-3. Drilling 1,821 ft.

ALABAMA COMPLETIONS

Mobile County Wildcat

Tom Daly 1 Fort, NW SE SE 2-6s-4w, dry, T.D. 6,518 ft.

ALABAMA WILDCATS

Colbert County

Frederic Mellen & Gear 1 Mrs. W. B. Alsobrook, W½ SW NW 10-4s-15w. Drilling 187 ft., lime.

Fayette County

B. L. Fillingame et al, 1 Ala. Educ. Assn., NW SW 3-16s-12w. T.D. 65 ft.; surface casing 100 ft., drilling 165 ft.

Franklin County

E. O. Heath, 1 W. O. Hester, SW SW 4-6s-12w. Rig.

Lawrence County

D. V. Mann et al, 1 Jackson, NE NE 30-7s-6w. Drilling 1,660 ft., show gas.

Marion County

Seaboard, 1 Clark et al, 360 ft. W, 660 ft. N, SE cor. SE SW 28-11s-14w. Drilling hard lime 2,183 ft.

Mobile County

W. L. McClanahan, 1 J. R. Lockhart, 300 ft. N, 150 ft. W, SE cor., NW SW 24-7s-3w. T.D. 6,600 ft.

STOCKS HELD IN PACIFIC COAST TERRITORY BY CALIFORNIA OIL COMPANIES

	June 30, 1940	May 31, 1940	June changes	June 30, 1939
1 Gasoline-bearing crude	35,190,264	35,721,588	—531,324	38,806,186
2 Nongasoline-bearing crude	13,340,198	13,279,151	+61,047	14,206,766
3 Unblended natural gasoline	2,418,391	2,210,560	+207,831	2,396,219
6 Gas oil and diesel oil	9,733,721	9,810,933	—77,212	10,333,510
4 Gasoline (not including distributing and service stations)	16,264,529	17,278,777	—1,014,248	14,129,499
5 Naphtha distillates	*1,855,903	*1,709,868	+146,035	*1,574,503
7 Fuel-oil residuum	65,127,849	65,101,337	+26,512	70,841,319
8 All other stocks	†8,775,852	†8,713,600	+62,252	†7,172,119
Total	152,706,707	153,825,814	—1,119,107	159,460,121
*Estimated amount of unfinished gasoline contained in item No. 5	1,660,599	1,484,386		1,310,625
†Coke included in item No. 8	1,300,640	1,252,685		284,089

PETROLEUM REFINERY ENGINEERING: W. L. NELSON

Latest and most complete summary of MODERN REFINERY PRACTICES

W. T. Ziegenhain comments: "In presenting this valuable book the author emphasizes the practical phases of engineering work and offers a thorough presentation of the fundamentals of refinery engineering and processing."

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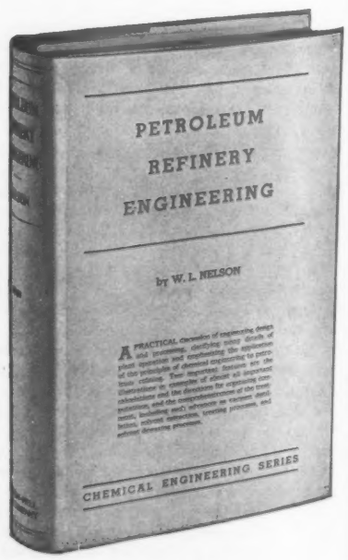


THE OIL AND GAS JOURNAL
Tulsa Oklahoma

Market Record of Active Oil Stocks

Compiled by Carl H. Pforzheimer & Co., 25 Broad Street, New York City, Member New York Stock Exchange and New York Curb Exchange

New York Stock Exchange

1940 High	1940 Low	Week ended Aug. 24 High	Week ended Aug. 24 Low	Week ended Aug. 24 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1939	Com. sh. earn. 1939	Com. sh. earn. 1938	1939 High	1939 Low	1938 High	1938 Low
58½	38⅛	43⅛	43	44	Amerada Corp.	788,675	N.P.	50cQ	7-31-40	$2.00	$1.56	$2.07	74½	50	78	55
27⅛	18¼	22¼	21	22	Atlantic Refining	2,663,999	$25	25cQ	6-15-40	1.00	1.66	1.40	24¾	18⅛	27⅝	17¾
16⅝	8½	9⅞	9⅝	9⅝	Barber Asphalt Co.	390,223	$10	25c	5-21-40	.25	1.39	—.85	21	10¼	23¾	12⅛
13⅜	7⅛	8⅛	7¾	8⅛	Barnsdall Oil Co.	2,558,779	$5	15c	9-9-40	.90	.76	1.26	19½	11⅛	21⅜	10⅛
8⅛	5½	6¼	6	6	Consolidated Oil Corp.	13,751,726	N.P.	20cQ	8-15-40	.80	.55	.55	9⅞	6½	10¾	7
25	16⅛	18½	17¾	18¼	Continental Oil of Delaware	4,682,572	$5	25cQ	9-30-40	1.00	1.35	1.10	31½	19⅞	35¾	21¼
6⅞	3⅜	3¾	3½	3¾	Houston Oil	1,098,618	$25	....	10-17-30	....	.43	.83	9⅜	4½	9¾	5
14⅜	9	9⅝	9⅝	9⅝	Lion Oil Refining	435,815	N.P.	25cQ	7-15-40	1.00	1.50	2.09	18⅛	10	25⅛	15⅝
17⅝	11½	12¾	12½	12⅝	Mid-Continent Petroleum	1,857,912	$10	40c	6-1-40	.60	1.42	.56	18	11⅛	22⅝	12¼
11	7⅛	..	..	..	Mission Corporation	1,378,645	$10	40c	12-15-39	.65	.87	1.04	14⅞	8¾	17⅞	10⅝
9¾	4⅝	5⅞	5⅝	5⅝	National Supply	1,155,517	$10	....	12-22-37	....	—.87	—.79	15½	5⅝	23	12½
8¾	5⅜	6¼	6¼	6⅛	Ohio Oil Co.	6,563,377	N.P.	20c	6-15-40	....	—.10	.25	10½	6	14⅞	8⅜
8¼	5⅝	6	5⅞	6	Pacific Western Oil	1,000,000	N.P.	40c	12-19-39	.40	.81	1.22	11⅞	7	15⅞	10¼
10	6¾	8	8	8	Pan American Pet. Trans.	4,702,945	$5	....	12-31-37	....	1.10	.08	8¾	5	9¼	6¼
41¾	27⅛	32⅞	32	32½	Phillips Petroleum	4,449,052	N.P.	50cQ	8-31-40	2.00	2.21	2.03	46½	31¼	44⅜	27¼
22¾	15	17	16¼	16¼	Plymouth Oil Co.	1,038,633	$5	35cQ	9-30-40	$1.40	2.38	2.59	24	17⅛	25⅜	15
11½	7	7½	7⅛	7½	Pure Oil Co.	3,982,031	N.P.	25c	12-20-39	.25	1.11	.38	11¾	6⅛	13½	8¼
8⅜	5⅞	8⅛	8	8	Richfield Oil Corp.	4,010,000	N.P.	50c	12-18-39	.50	.65	.51	10¼	6⅝	9⅞	5
20	11	12⅜	12¼	12¼	Seaboard Oil of Delaware	1,244,383	N.P.	25cQ	9-14-40	1.00	1.40	1.52	24⅜	15½	27½	15⅛
13⅛	7⅝	8¼	8	8¼	Shell Union Oil	13,070,625	N.P.	25c	7-16-40	.50	.77	.72	17¼	9⅞	18⅜	10
23¼	12¼	15½	15⅛	15½	Skelly Oil	995,349	$15	25c	8-28-40	.75	1.99	2.27	29½	15½	34¾	18⅛
12½	7⅛	8¾	8½	8¾	Socony-Vacuum	31,206,071	$15	25cSA	3-15-40	.50	1.10	1.29	15⅛	10¼	16⅜	10⅜
26⅛	17⅜	18	17½	18	Standard Oil of California	13,003,953	N.P.	25cQ	9-16-40	1.10	1.38	2.22	33⅝	24¼	34⅞	25⅛
29	20¾	24¾	23⅞	24⅛	Standard Oil (Indiana)	15,272,020	$25	†50c	9-16-40	1.25	2.23	1.82	30	22¾	35½	24⅜
46½	29⅞	34¼	33¼	34	Standard Oil of New Jersey	27,280,998	$25	1.00†	6-15-40	1.25	3.26	2.86	53½	38	58⅜	39⅜
65⅞	46¾	49	48¾	48¾	Sun Oil	2,434,863	N.P.	25c*	6-15-40	1.00	2.74	1.07	66	45¾	65⅛	45
2½	1¼	1⅜	1¼	1⅜	Superior Oil Corp.	1,388,979	$1	10c	12-28-38	....	.04	.24	3⅝	1⅜	4¼	1⅜
47⅝	33	36	34½	35½	Texas Corp.	10,876,139	$25	50cQ	7-1-40	2.00	3.02	2.13	50¾	32½	49⅝	32⅝
4¼	2½	3	2⅞	3	Texas Gulf Producing Co.	888,146	N.P.	10c	6-15-40	.20	.69	.86	5⅝	3¼	5⅞	2⅝
8⅝	5½	6	5⅞	6	Texas Pacific Coal & Oil	888,236	$10	10c	9-3-40	.40	1.00	1.16	11⅜	7	12½	7
12	8¾	9½	9⅛	9¼	Tide Water Associated	6,371,827	$10	15c	9-3-40	.80	1.05	1.28	14¼	9½	15¾	10⅛
17½	12	12¼	12⅛	12½	Union Oil Co. of California	4,666,270	$25	25c	8-10-40	1.05	1.25	1.47	19¾	15⅛	22½	17⅛
29⅞	22¾	25½	25½	25½	Union Tank Car Co.	1,177,381	N.P.	45c	6-1-40	1.30	2.07	1.16	24¼	20⅛	23½	20
3⅝	1⅞	1⅞	1⅞	1⅞	Wilcox Oil & Gas	470.768	$5	10c	2-15-40	...	.77	.52	4¼	2⅜	3½	1⅝

*Also 5 per cent in stock. †Includes extras. ‡Also 2 per cent in stock. §Also 4 per cent in stock. ‖Also 2½ per cent in stock. ¶Also 1⅛ per cent in stock. —Deficit.

New York Curb Exchange

1940 High	1940 Low	Week ended Aug. 24 High	Week ended Aug. 24 Low	Week ended Aug. 24 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1939	Com. sh. earn. 1939	Com. sh. earn. 1938	1939 High	1939 Low	1938 High	1938 Low
10¾	4½	5	4⅞	5	American Republics Corp.	1,308,049	$10	10c	7-11-38	....	$0.14	—.22	11¾	5½	11¾	5
3¼	1⅝	..	..	..	Bridgeport Machine Co.	263,700	N.P.	$1.25	12-30-37	....	—.95	—.14	7¼	2½	10¼	4⅜
43	28	38	37	38	Buckeye Pipe Line Co.	200,000	$50	$1	9-14-40	$2.50	3.13	2.36	34¾	26½	39	22½
117	95	95½	95½	95½	Chesebrough Mfg. Co.	120,000	$25	$1.50Q†	9-23-40	6.00	7.87	5.32	130	108⅝	128	97
6¾	4	5⅞	5⅝	5¾	Cities Service (new)	3,703,978	$10	....	6-1-32	....	.68	.23	9¼	4¼	11	5⅛
2⅛	1	1⅛	1⅛	1⅛	Cosden Petroleum	465,332	$1	....	....	....	....	....	2¼	½	2⅜	⅞
24¼	12½	13	12⅛	12⅛	Creole Petroleum	6,974,356	$5	50cSA†	6-15-40	1.00	1.38	1.64	28	16¾	27½	17½
4⅜	2⅞	3½	3⅜	3½	Darby Petroleum	351,390	$5	25cSA	1-15-39	.25	.03	.69	7⅛	3⅝	10¼	5⅛
2	1¼	..	..	..	Derby Oil & Refining	263,162	N.P.	....	.....	....	—.37	—.91	2⅝	1½	3½	1⅛
31	23	..	..	..	Eureka Pipe Line	50,000	$50	50c	8-1-40	2.00	.63	—.37	23	15⅛	31	16
39⅞	25⅛	28	27¾	27¾	Gulf Oil Corp.	9,076,202	$25	25cQ	7-1-40	2.00	1.69	1.43	45⅛	29¼	46⅞	33
68	47⅛	52½	51⅛	52	Humble Oil & Refining	8,987,840	N.P.	62½c	10-1-40	2.00	3.33	3.98	71	52½	72⅝	56
12⅜	5⅛	7⅜	6⅜	6⅞	Imperial Oil of Canada	26,965,078	N.P.	37½c†	6-1-40	1.00	.71	.96	17	11⅜	19½	14⅛
4⅛	3½	3¼	3¼	3¼	Indiana Pipe Line	300,000	$7.50	10c	5-15-40	.50	.33	.47	7¼	5½	9⅜	6
19¾	8¼	10⅝	9⅜	10⅛	International Petroleum	14,324,088	N.P.	75c	6-1-40	1.75	1.19	1.98	27½	17	31¼	21
2¾	1⅝	1⅞	1¾	1¾	Kirby Petroleum Co.	500,000	$1	10c	4-15-38	....	.06	.14	3¾	2⅛	5	2⅛
10¾	7⅝	9	8⅞	9	Lone Star Gas	5,518,347	N.P.	20c	7-22-40	.70	.98	.88	10½	7⅛	10⅜	6⅝
6¼	3¾	4⅞	4⅜	4¾	Louisiana Land & Exp.	2,966,762	$1	10c	9-14-40	.35	.22	.45	7¾	4	9⅜	6⅛
17	10	..	..	..	Margay Oil Corp.	149,943	N.P.	25cQ	7-10-40	1.00	1.52	2.28	17	14½	24	16
8½	6½	7	6½	7	Midwest Oil Co.	998,474	$10	45c	6-15-40	.90	.99	.93	8¾	6⅝	9¾	6⅝
6¼	4⅞	5⅛	5	5⅛	Mountain Producers	1,593,584	$10	30cSA	6-15-40	.60	.70	.62	6	4⅞	5¾	4½
13⅛	10	10½	10	10	National Fuel Gas	3,810,183	N.P.	25cQ	7-15-40	1.00	.95	.84	14	11¼	14⅝	11½
12½	8¾	9⅛	9	9	National Transit	509,000	$12.50	50c	6-15-40	.85	.91	.88	9½	7¼	9¼	6½
1¼	⅝	⅝	⅝	⅝	New Mexico and Arizona	1,000,000	$1	1c	12-1-37	....	.02	.02	1⅜	1	2⅝	1⅛
7¾	5¼	..	..	..	New York Transit	100,000	$5	25c	4-15-40	.40	.88	.16	6	4	4½	3½
9⅞	6	..	..	..	Northern Pipe Line	120,000	$10	40c	6-1-40	.30	.31	.24	7	4½	6	4
5½	2½	3⅛	3	3	Pantepec Oil	2,856,872	$1	....	.....	....	....	....	7⅝	4	7¾	3½
3¼	1¼	1⅝	1¼	1¼	Root Petroleum Co.	336.045	$1	25c	2-1-37	....	.70	.17	5	1¼	4½	1⅝
2½	1½	2	2	2	Ryan Consolidated	298,931	N.P.	....	.....	....	.16	.29	3	1⅞	4	2⅛
11⅜	4⅞	6	5¾	5¾	Southern Pipe Line	100,000	$10	25c	9-3-40	.30	.25	—.27	4⅞	3½	5⅜	3¼
44	28	32¼	31	32¼	South Penn Oil	1,000,000	$25	37½c	6-28-40	3.00	2.84	1.44	40½	26⅜	39	28⅜
35	22	..	..	..	Southwest Penna. Pipe Lines	35.000	$50	50c	7-1-40	2.00	2.06	—.41	23	18	22¼	16½
20⅞	16½	18½	18⅛	18½	Standard Oil of Kentucky	2,604,790	$10	25c	9-14-40	1.30	1.53	1.45	20⅛	17¼	18⅞	15
41¾	26¼	32¼	31½	31½	Standard Oil of Ohio	753,740	$25	25c	6-15-40	1.50	6.64	1.81	32¾	17	22¾	16¼
2	1⅜	1½	1⅜	1½	Sunray Oil	1,975.876	$1	5c	5-1-40	.10	.25	.23	2¾	1¾	3¼	2
2¾	2	2¾	2⅝	2⅝	Texon Oil & Land	936,024	$2	10c	9-30-40	.10	.49	.56	4	2⅝	5¼	3½
3⅜	2	2¼	2¼	2¼	Transwestern Oil Co.	750,000	$10	....	.....	....	—1.42	—.12	6	2½	7⅝	4¼
2⅛	⅛	1¼	1⅛	1⅛	United Gas Corp.	7,818,959	$1	....	.....	....	—.55	—.51	3⅜	1½	5¼	2⅝

Includes extras. —Deficit.

Personal Paragraphs

SCOTT E. DRUMMOND, Standard Oil Co. of New Jersey; W. B. ENGELBRECHT, Phillips Petroleum Co.; S. P. JOHNSON, Standard Oil Co. of California; O. B. LEWIS, Ethyl Gasoline Corp.; C. D. NORRIS, Texas Co.; WALTER SAMANS, Sun Oil Co. and E. D. SEYMOUR, Socony-Vacuum Oil Co., Inc., have been appointed on the committee to study underground aviation-gasoline storage problems. The committee will function with representatives of the Army and Navy.

JOHN C. SAMPLE, who entered the employ of General Petroleum Corp. after a long period of service in the export division of Socony-Vacuum, the parent company, has recently qualified for General Petroleum's 20-year group. Just prior to joining General Petroleum he had been in the Yokohama office of Socony-Vacuum.

L. E. BRENKAMP, petroleum engineer with Atlantic Refining Co., has been transferred from East Texas to Alice.

D. E. PARK, general manager of the Texas Co. of Venezuela, Ltd., is en route from New York to Venezuela aboard the Grace Line vessel, Santa Rosa.

CLAUDE WOESSNER, assistant vice president of the Mene Grande Oil Co., sailed August 23 on the Grace liner Santa Rosa for Caracas, Venezuela.

J. L. BRUNS, Shell Oil Co., Inc., has been transferred from Midland to East Texas where he is now divisional mechanical engineer. He succeeds G. H. CALHOUN who goes to Houston.

MURRAY C. SELLS, president of the Sells Petroleum Corp., Longview, Tex., has been made chairman of the finance committee that will cover eastern Texas in raising funds for the National Republican Committee.

P. J. CRUMPTON, for the past 10 years president of Richfield Consolidated Oil Co., and for a number of years previously with California Petroleum Corp., has retired and will take a long and deserved rest.

C. A. LUPTON, T. J. BROWN and L. A. LONG, all independent operators of Fort Worth, Tex., have been granted charter for the Brolon Producing Co., a new firm name to handle the operators' properties in North Texas.

R. S. KNAPPEN, Gulf Oil Corp.; E. A. STEPHENSON, University of Kansas; C. A. WARNER, Houston Oil Co.; DON H. KNOWLTON, Phillips Petroleum Co., and HAROLD VANCE, Texas A. & M. College, have been named as chairmen for the forthcoming meeting of the petroleum division of the A.I.M.M.E., which will be held in Tulsa October 24-26.

C. G. WILLIAMS, R. R. BOYD, W. C. WHALEY, R. L. KEYES and L. R. RODGERS have been appointed members of a new-well committee of the California Conservation Committee to conduct a survey to determine as far as possible how many new wells are expected to be completed during the remainder of 1940 as well as an estimate of the number to be drilled during 1941.

M. A. (MIKE) WRIGHT, division engineer for Carter Oil Co. at Seminole, Okla., is convalescing at St. Johns Hospital, Tulsa, after an automobile accident in which he suffered a broken knee cap and a severe head wound. Stationed for 2 weeks in Tulsa, where he assumed the duties of IVAN SALNIKOV, chief production engineer, while the latter was on a vacation, Mr. Wright was returning to Seminole when the accident occurred.

WILLIAM HUMPHREY, president of Tide Water Associated Oil Co. with offices in San Francisco, Calif., has purchased from B. J. Wyman, referee in bankruptcy, HERBERT FLEISCHHACKER'S one-third interest in Wilmac, Inc., which controls a 160,000-acre ranch in Nevada and considerable stock in Rainier Brewing Co. and Pacific Portland Cement Co. Mr. Humphrey already had owned a one-third interest and purchased the additional third interest for $490,000.

ROY W. JOHNS, general counsel for Atlantic Refining Co., Philadelphia, Pa., will present an address before the forthcoming meeting of the mineral section of the American Bar Association, which will be held at Philadelphia. Mr. Johns will speak on "Some Aspects of the Effect of the Exercise of the Police Power on Correlative Rights in a Common Reservoir." WALTER L. SUMMERS, Urbana, Ill., author of "The Law of Oil and Gas," will speak on "Does the Regulation of Oil Production Require the Denial of Due Process and the Equal Protection of the Laws."

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

Damages to the Gulf Coast oil industry were estimated at $1,000,000 as a result of a tropical hurricane which wrecked 1,350 derricks in coastal fields and destroyed three 55,000-bbl. tanks at a Texas City refinery.

Healdton, Okla., crude is selling for 35 cents a barrel and operators are protesting against production restraints imposed by the Corporation Commission, demanding a free market and unrestrained opportunities to drill.

Geologists report the discovery of 90 oil districts in China, all with convincing surface indications of petroleum.

20 YEARS AGO

The U. S. Navy Department is contemplating plans for immediate operation of oil reserve lands in southern California, either directly or by lease to private concerns.

Oil interests in Mexico are opposing plans of the Carranza government to collect export taxes.

Seventy-five cent gasoline is predicted by Professor Maberry, of the Case School of Applied Science, and he bases his view on the discouraging outlook in the world's oil fields.

10 YEARS AGO

Statewide proration of crude-oil production becomes effective this week in Texas. Elwood Fouts, attorney for two Gulf Coast operators, denounced the entire proration program as an attempt to fix prices.

A 29,000-bbl. well was completed at Hobbs, the largest to date in that New Mexico field.

Natural gas from West Virginia will be piped into Washington, D. C., before the end of the year, a utility executive announced.

E. E. MICHAELIS, oil-field excavating contractor of Salem, Ill., has organized the Michaelis Drilling Co.

DAVID A. STEFFEE, Seneca, Pa., superintendent of the Smithman Oil Co. for the past 45 years, with Mrs. Steffee marked their fiftieth wedding anniversary on August 20.

ROY S. SULLINS, Houston, Tex., consulting mud engineer who has been employed for the past year by the Iraq Petroleum Corp., returned last week from Syria and Iraq.

ROGER LACY, independent operator of Longview, Tex., has organized the Southern Gas Co. to operate a gas-producing and distributing system recently started for the city of Longview.

SIDNEY T. COVELL, of Shell Oil Co., Inc., with offices in San Francisco, Calif., has been appointed manager, purchasing and stores, of the company, climaxing 25 years of service.

J. W. CAIN, JR., honor graduate of the University of Texas with a bachelor of science degree in geology, has joined General Geophysical Co. and will be stationed in Louisiana.

R. R. G. RIVINGTON, formerly in Rumania with the Shell interests, has come to America for the trainee course. He is now located in East Texas, having come from St. Louis, Mo., and will next go to Houston.

H. F. WILLIAMS, Oklahoma Natural Gas Co., has been transferred to Okmulgee, Okla., succeeding FRANK THOMAS, who is now at Enid, Okla.

GEORGE B. WEPSALA, JR., petroleum engineer trainee for Carter Oil Co., has been transferred from its Tulsa office to the Ponca City, Okla., office.

J. S. SCHURMAN, secretary of the Chicago Oil Men's Club, has announced that the club will hold its fall golf party at the Medinah Country Club on September 12.

PHIL F. MARTYN, chief geologist for Houston Oil Co., Houston, Tex., left last week for a vacation tour through Colorado, Arizona and other western states.

FELIX GORDON, formerly assistant petroleum engineer in charge of production for Buffalo Oil Co. in Southwest Texas, has been promoted to production engineer following the resignation of H. J. LORENZ to engage in consulting work at Tulsa.

A. M. WRIGHT, land man for Sunray Oil Co., is being transferred from San Antonio, Tex., to Wichita, Kans., where the company is opening new offices. FRED PHELPS, geologist for the company, is to be transferred from Tulsa to Wichita as district geologist.

J. C. HAWKS, assistant engineer at United Natural Gas Co.'s Pine Grove compressor station, Coal Hill, Pa., last week was retired after 20 years' service with the company. STACY JONES, machine-shop employe of the company at Bradford, Pa., likewise was retired last week after 20 years' service.

E. L. LUACES has established an office in New York City where he will engage in patent practice in the fields of chemistry, metallurgy and engineering, in which he has been actively engaged during the past 16 years. He has withdrawn from active participation in the affairs of E. L. Luaces and associates, industrial chemical consultants, and has been succeeded by T. A. L. LUACES as head of that organization.

Engineer Turns Oil Man

C. C. Toomey, president of Midco Oil Corp., Tulsa, did not start out his business life as an oil man. He had since boyhood nurtured the idea that he wanted to be an engineer. After finishing high school in Kansas City, Mo., he matriculated at the University of Missouri, in the school of civil engineering. He was graduated in 1914, after having specialized in structural steel and concrete design work.

C. C. TOOMEY

For 1 year after graduation he worked for the Kansas City Terminal Railway, during the construction of the terminal depot. In 1915 he joined the Christopher & Simpson Steel Co., with whom he had a job designing bridges and steel buildings. It was while he was with this company that he was smitten by the oil virus, the exposure coming while he had charge of drilling some tests in Rantoul, Kans. The company drilled nine wells.

Once he had decided to get into the oil business, he wrote the largest company in the industry to ask for a job. He was immediately accepted and ordered to report, by Standard Oil Co. of New Jersey, to the Carter Oil Co., in Tulsa, as engineer. After 2 years as an engineer, he was transferred to Carter's geological department, where he remained until 1926. In that year he joined Skelly Oil Co. as assistant chief geologist. A year later he became associated with Wrightsman Petroleum Co., and in 1928 he left Wrightsman and took over the management of Midco Oil Co. as vice president and general manager. In 1932 he was made president of Midco, which position he still holds.

Mr. Toomey was married in 1916 to Ruth M. Ziegler, and they have two daughters, Dorothea and Patricia Ann. He still retains an enthusiasm for athletics, professing fondness for golf, tennis, swimming, and baseball. He is also a singer, having sung in several operas and musical presentations in Tulsa. Moreover, he is active in civic affairs, and is currently president of the Kiwanis Club.

JAMES O. LEWIS, petroleum engineer for Dunn & Lewis, Tulsa, has recently gone to Trinidad, British West Indies, on a business trip.

CECIL M. HACKLER, formerly in Pure Oil Co.'s division office at Fort Worth, Tex., has been transferred to San Antonio, Tex., as scout in the Southwest Texas district.

RAY A. GREGORY, of Petrolia, Ont., sailed recently from New York for Trinidad, British West Indies, where he has taken a 3-year drilling contract for a British oil company.

. COL. T. H. BARTON, president of Lion Oil Refining Co., El Dorado, Ark., has been invited to join the distinguished-guests committee of the American Legion for its Boston convention, September 23-26.

E. P. (PAT) PHILBROOK, district geologist for Magnolia Petroleum Co. at Wichita, Kans., was removed from a private hospital to the Veterans Hospital in that city following an improvement of his condition. A rest cure of from 6 to 8 weeks, however, was recommended for him.

W. M. McKNAB, Kansas independent operator, is celebrating the victory of his sensational pacer, Evening Sun, which recently broke the California State pacing record from a barrier start in the free-for-all pace at the Santa Rosa track. A dazzling time of 2:01¾ was turned in by the horse.

N. V. V. FRANCHOT, Olean, N. Y., at one time grand old man of the International Petroleum Exposition, observed his eighty-fifth birthday last Saturday at Morris, N. Y. The same date marked the 150th anniversary of the arrival in this country of his grandfather, Stanislas Pascal Franchot, from France.

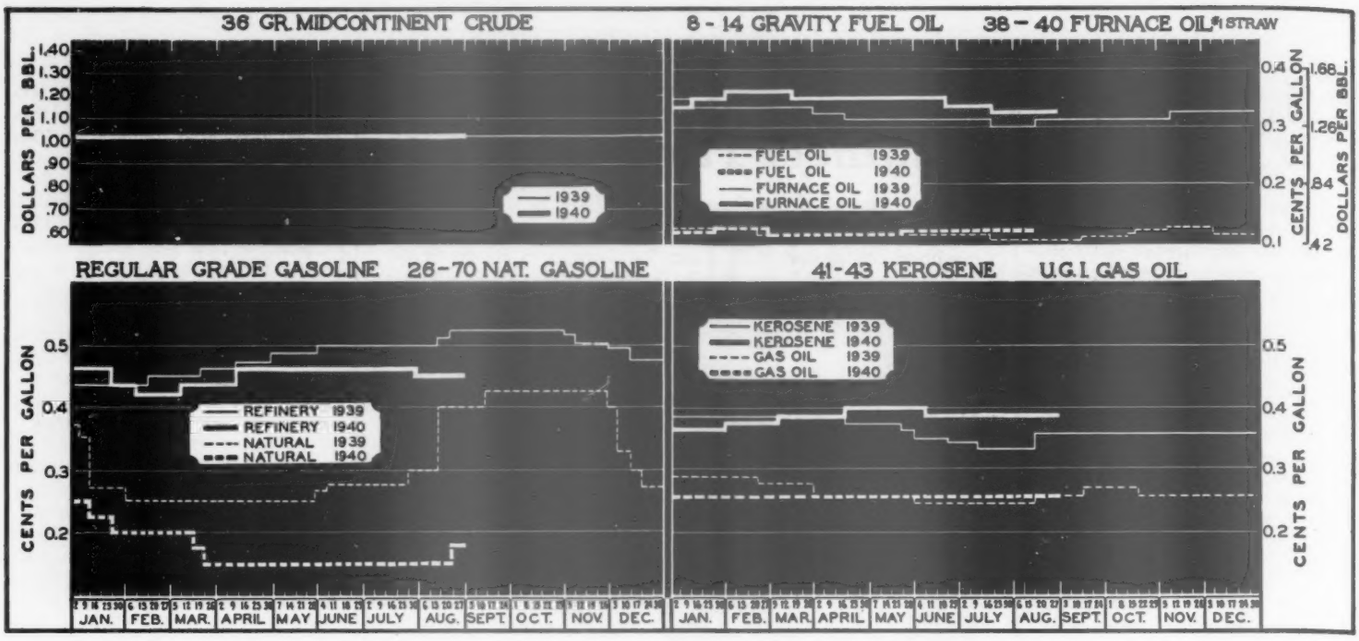
HARVEY H. BLAIR, independent operator and member of the Wichita firm of Hartman & Blair, has been on a combination business-pleasure trip through Mexico, New Mexico, Arizona and Texas, buying several thousand head of cattle to be fattened on his 5,000-acre ranch in Butler County and on range in Barber County, Kansas.

Shifts: ED WOLF, superintendent, Lone Star Gas Co., from Buffalo, Tex., to Athens, Tex.; THOMAS B. MALLOY, engineer, the Texas Co., from Seguin, Tex., to El Campo, Tex.; J. T. REEVES, engineer, Sinclair Prairie Oil Co., from Midland, Tex., to Jackson, Miss.; V. S. HOLLINGSWORTH, engineer, Hollingsworth Gas & Oil Corp., from Highland, Ill., to Princeton, Ind.; C. C. BEEBE, superintendent, J. J. Deaner, from Keensburg, Ill., to Beardon, Okla.; LEO HAIJSMAN, engineer, Kingwood Oil Co., from Salem, Ill., to McLeansboro, Ill.; R. E. CONLEY, engineer, Pent-Hex Corp., from Gary, Ind., to Cleveland, Ohio; R. L. WALES, engineer, the Texas Co., from Woodsfield, Ohio, to New Martinsville, W. Va.; PERRY L. WINTHERS, Gates Petroleum, Ltd., from Winnipeg, Man., Canada, to Pilot Mound, Man., Canada; R. B. WHITTON, engineer, Arkansas Fuel Oil Co., from Big Sandy, Tex., to Longview, Tex.

BRUCE K. BROWN, manager research and development, Standard Oil Co. of Indiana; OTTO EISENSCHIML, president, Scientific Oil Co., Inc.; THOMAS MIDGLEY, JR., vice president, Ethyl Gasoline Corp.; C. R. WAGNER, chief chemist, Pure Oil Co., and E. C. WILLIAMS, director of research, Shell Development Co., are included among the members of the advisory committee of the National Chemical Exposition, which will be held in Chicago December 11 to 15. On the exposition committee are L. M. HENDERSON, Pure Oil Co., and G. L. PARKHURST, Standard Oil Co. (Indiana).

R. A. BROWN, SR., of Calgary, Alta., a pioneer of Turner Valley crude development, has been appointed a member of the National Advisory Committee for supervision of the movement of children from overseas.

J. COOKE WILSON, president of the Wilson-Broach Co., Beaumont, Tex., has been named chairman of the Lucas Gusher Monument Association, which will erect a permanent monument to the Lucas gusher, Spindletop's discovery well. S. W. PIPKIN, former president of Paraffine Oil Co., is vice president of the association; SCOTT W. MYERS, secretary, Union Oil Co., Beaumont, is secretary of the association, and M. E. BROCK, Houston, assistant to the vice president of Gulf Production Co., is treasurer.



Representative Mid-Continent Quotations on Crude Oil and Refined Products, Basis Oklahoma (Group 3)

Demand From Middle West Buyers Stimulates Group 3 Refined Market

By H. STANLEY NORMAN

THE combination of curtailed open-market supplies in the Illinois-Indiana-Kentucky refining district and stimulated demand for Labor Day gasoline business lifted the Group 3 structure to the strong side of quotations at the start of this week.

Movement of natural gasoline to the Gulf Coast has resumed after a protracted lull. Relief of pressure from North Texas and Panhandle natural-gasoline producers permitted the Oklahoma market to break through resistance and quotations to northern buyers are firm at 1¾ cents per gallon.

Oklahoma Market Advances

The Oklahoma intrastate natural-gasoline market moved forward to 2⅛ cents for 18-lb. material. Some natural producers occupying favorable geographical positions in relation to refinery customers are getting as high as 2¼ cents, the difference representing savings in freight rates. Texas plant operators are quoting 1½ cents per gallon for 26-lb. natural gasoline. Shipments to the Gulf Coast for subsequent coastwise movement have been in progress for a week. There is no indication whether Gulf Coast demand for natural gasoline is enjoying only a temporary bulge or if previous stocks are exhausted.

A large buyer of natural gasoline in the Middle West returned to the Oklahoma market after an extended absence and was forced to pay 1¾ cents in bringing out the desired volume of material. The higher price prevailed despite a thorough canvass of the supply sources, a procedure which in the past has developed at least a part of the buyer's requirements.

Refinery gasoline business was reported brisk. A larger percentage of the Group 3 motor-fuel business volume is moving at the high of the quoted market. Stocks have been sufficient at most plants to fill shipping instructions without interrefinery buying for a week but there is little gasoline pressing for an outlet in the Oklahoma territory. Some close observers of market conditions were even willing to guess that quotations will move forward within the next week or two unless some unforeseen deterrent develops.

Refined Oil Market Barometer

The low side of the Gulf Coast bulk-gasoline market came down an eighth of a cent in quotations and distillate fuels on the East Coast were reduced 0.03 cent per gallon in sympathy with Texas and Louisiana coastal prices. Gasoline markets elsewhere were stable.

MID-CONTINENT. Natural gasoline advanced. Refinery motor-fuel movement high.

EAST COAST. Light fuel oils moved counter to seasonal trends. Heavy fuels are slightly stronger.

GULF COAST. Low of the cargo-gasoline market slumped to 3⅞ cents. Light fuel oils are dull.

CALIFORNIA. Gasoline moving in narrow range. Naturals soft. Movement of fuel oils improving.

CHICAGO. Fuel-oil market stronger. Gasoline tone improved by crude-oil price advance.

Holiday Buying Extended

Shipping instructions and new purchase inquiries for gasoline to be delivered before Labor Day appeared in the Oklahoma market as late as August 27, indicating that some of the middle western dealers and jobbers had held out of the market as long as possible.

The unchecked decline of Illinois production, reported just above 381,000 bbl. daily for the past week, has had a wholesome influence on the Group 3 market. Refiners in Oklahoma, Kansas and North Texas are receiving inquiries from northern buyers who have not appeared on their books for 3 or 4 months.

Return of northern buyers to the Mid-Continent market indicates that independent refiners in Illinois are either obtaining insufficient crude to meet their requirements or that the advance of 10 cents per barrel in the cost of raw material in that state has extended the competitive scope of buying. Some refiners in the Illinois basin district are still operating on crude-oil contracts negotiated before major buyers were in position to compete for the oil.

Undermarket Contracts Expire

Unexpired crude contracts involving less than the posted price give a market advantage to holding purchasers enabling them to meet most of the competitive situation arising in the past. Dwindling production and the competitive quest for new connections by the major buyers has marked at least a temporary end of the ability to make new crude contracts at less than posted prices.

Distillate fuel oils and tractor oils are in stronger demand within the Group 3 territory for northern movement. The fuel-oil prices are unchanged from those prevailing through the past several weeks but these products are in the best position to move forward in the near future. Consumption in space heaters has started in the more northern part of the territory which consumes surplus production of distillate fuels in the Group 3 market and this demand will grow with each passing week.

Lubricating oils in the Oklahoma district are holding unchanged following the trend of the Pennsylvania market.

Distillate-Fuel Prices Recede In North Atlantic Territory

By J. P. O'DONNELL

NEW YORK, Aug. 27.—Despite the fact that there were widespread reductions in distillates last week and further downward adjustments in gasoline prices, a note of optimism was engendered in the eastern refined markets by the advance of 10 cents in the price of Illinois crude posted by the Texas Co. on August 21 and followed by other leading purchasers. The optimism was based entirely on the implications of the crude-price advance.

Further bases for optimism were seen in the American Petroleum Institute estimate of fuel-oil demand this winter, which envisioned an increase of from 6 to 9 per cent in consumption of heating oils despite greatly curtailed exports and the Bureau of Mines prediction of an increase of 7 per cent in the domestic demand for motor fuel in September.

Fuel-oil and kerosene prices were reduced generally by one of the major companies on August 20 and by the end of the week all other companies had met the reduction. The reductions were uniformly 0.3 cent in both tank-car and tank-wagon prices throughout the area. Kerosene and No. 1 fuel-oil prices in the New York Harbor area are now 4.8 cents per gallon and Nos. 2 and 4 fuel oil 4.1 cents per gallon.

At the same time Socony-Vacuum Oil Co. dropped its kerosene tank-wagon prices throughout its territory with the exception of western New York and Connecticut, most of which were already under the average for the territory. These prices now range from a low of 7.3 cents in Albany to a high of 8.5 cents in Manchester, N. H. Standard Oil Co. of New Jersey made similar adjustments at New Jersey points.

Diesel-oil prices were likewise reduced 0.3 cent in tank-car lots and the marine-terminal price was reduced to $1.70 per barrel, off 10 cents from the previous quotation. The tank-car price on 28-30 diesel fuel is now 4.1 cents with the same quotation being posted for gas oil. Industrial fuel oil, while reportedly selling as low as 3.3 cents, is being held at 3.85 cents by the major suppliers.

The only change in gasoline tank-wagon prices was made at Boston, where it was reduced 0.5 cent to 6 cents. Retail conditions in Boston have been unhealthy for some time and the drop in tank-wagon prices is a reflection of these conditions. Regular-grade gasoline has been sold at 8 gal. for $1 in Boston, matching conditions that have existed for some time in several Connecticut points. In rather marked contrast to these conditions, the A.P.I. reported that the average retail price of gasoline in 50 representative cities as of August 1 was 12.58 cents, ex tax, a gain of five points from the July 1 average. One company announced a reduction of ¼ cent in its motor-gasoline prices at New York and Baltimore in recognition of lower prices quoted by competitors. The lower motor-fuel prices in the northeastern area were regarded as a reflection of further weakness at the Gulf, uneconomically high inventories and soft tanker rates. Gasoline prices were reported off to 3⅞ cents at the Gulf, an eighth cent lower than previous lows, though it was believed by some that the change in the Illinois situation would have a favorable reaction on the Gulf Coast market.

Gasoline stocks in the East Coast refining district exhibited another unseasonable movement in the week ended August 17 when they increased 531,000 bbl. to 21,848,000 bbl. An increase of 26,000 bbl. in runs was undoubtedly a contributing factor abetted by less-than-anticipated consumption. The increase brought them 5 per cent above the level of a year ago, one of the few times this year they have been so far out of line with last year's inventories.

Both distillate and residual-fuel-oil stocks on the East Coast continued to mount last week. The latest A.P.I. report shows an increase of 713,000 bbl. in gas-oil and distillate inventories and a gain of 179,000 bbl. in residual-fuel-oil stocks. The mid-August total of 15,452,000 bbl. in gas oil and distillate fuel-oil inventories on the East Coast compares with 13,094,000 bbl. as late as September 30 of last year. A continuation of this rate of increase would put East Coast stocks close to 20,000,000 bbl. on September 30 this year, fully 50 per cent above the stock level of the year before and ample to carry the district through the heating-oil season without too great an addition to gasoline stocks. However, the currently high level of stocks is believed to have been a contributing factor to last week's fuel-oil price reductions.

Tanker rates in the Gulf-to-north-of-Hatteras trade were reported unchanged last week with little new business to affect the market. With the fuel-oil season nearing, these rates may be expected to stiffen to some degree but it is likely that the increased stocks in the East Coast area will delay the improvement this year. Further declines in rates are not expected, at least by some observers, who contend that they are now on a cost or break-even basis and that a further decline would mean that owners were losing money.

Both waxes and lubricating oils were reported unchanged last week with the depressed export market the controlling factor in both instances. There was some domestic movement for bright stocks, though not sufficient to warrant any optimism, but neutrals remained strong with some indication that a price improvement may be in the offing.

A.P.I. Weekly Refinery Statistics

Week Ended August 24, 1940

	Capacity reporting (per cent)	Total gasoline stocks (bbl.)	Residual fuel-oil stocks (bbl.)	Gas oil and distillate stocks (bbl.)	Daily crude runs (bbl.)
East Coast	100.0	21,373,000	11,590,000	15,967,000	591,000
Appalachian	91.0	3,385,000	511,000	457,000	125,000
Ind., Ill., and Ky.	90.2	14,547,000	3,396,000	5,325,000	601,000
Okla., Kans., and Mo.	76.9	6,514,000	2,144,000	1,521,000	264,000
Inland Texas	59.6	1,629,000	1,497,000	380,000	105,000
Texas Gulf	85.3	11,518,000	7,446,000	6,927,000	724,000
Louisiana Gulf	97.6	2,554,000	1,614,000	1,090,000	100,000
N. Louisiana and Ark.	51.5	446,000	491,000	290,000	44,000
Rocky Mountains	56.0	964,000	543,000	124,000	52,000
California	87.3	15,835,000	76,619,000	10,185,000	509,000
Total reported	85.3	78,765,000	105,851,000	42,266,000	3,115,000
Est. unreported	.....	7,005,000	2,170,000	1,665,000	370,000
*Est. total	.....	85,770,000	108,021,000	43,931,000	3,485,000
*Est. total previous wk.	.....	86,441,000	107,935,000	42,869,000	3,510,000
*August 25, 1939	.....	73,756,000	115,595,000	37,036,000	3,415,000

*Bureau of Mines.

Stocks of Crude Oil in the United States

(BUREAU OF MINES ESTIMATE)

Week ended August 17, 1940	263,425,000 barrels
Week ended August 10, 1940	263,607,000 barrels
Week ended August 19, 1939	262,486,000 barrels

Figures do not include stocks of heavy, unrefinable California crude.

Gulf Coast Markets

HOUSTON, Tex., Aug. 27.—Some of the gasoline recently bought on the Gulf Coast for Japanese destination but which was held up by the Government's embargo on sale of aviation gasoline out of this hemisphere was being moved the past week under permits authorizing the sale as "subspecification" material. Under rulings just issued the Government will grant permits for the sale of off-specification material in some instances.

The material, which at the time generally was classed as aviation material, is reported to have an octane rating of 72-74, which does not come up to this Government's standards for aviation gasoline.

Movement of this material is expected to bring some relief in storage pressure to the individual refineries making the sales, and also is expected to offer some indirect benefit to the market picture. Although the volume of material is comparatively small in relation to the total gasoline on hand. Sales at the time were reported as being about four cargoes and 160,000 drums. Present movement, however, does not approach this figure.

The general gasoline market on the Gulf Coast continued depressed with reports of additional concessions in quotations being offered. One refiner offered 70-72 leaded gasoline at a figure of 3.875 cents, while another quoted 72-74 leaded material at 3¾ cents. Clear gasolines of these ratings were not generally quoted below a quarter cent agove those figures.

Fuel, gas-oil and burning-oil markets were slightly confused during the week. Several sellers reported little interest in these markets and

(Continued on Page 111)

Retail Oil Markets

Tank-wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of August 27, 1940

Taxes

The gasoline quotations given in the following tables include the 1½-cent federal tax, as well as state, county, and city taxes. The gasoline is the regular or standard grade. In most areas lower grades and a premium grade also are available.

Standard Oil Co. (Indiana)

	Gasoline—Tank wag.	Dlr.	Incl. tax	Kero. tank wag.
Chicago, Ill.	15.6	13.6	4.5	10.0
Decatur	14.6	13.1	4.5	9.5
Joliet	15.6	14.1	4.5	10.0
Peoria	15.6	13.2	4.5	10.0
Quincy	15.4	13.9	4.5	9.8
Davenport, Ia.	15.6	14.1	4.5	‡10.0
Des Moines	15.4	13.9	4.5	‡10.2
Mason City	15.8	14.3	4.5	‡10.2
Duluth, Minn.	17.4	15.9	5.5	10.8
Mankato	17.0	15.5	5.5	9.0
Minneapolis	17.0	15.2	5.5	10.4
LaCrosse, Wis.	17.0	15.5	5.5	10.4
Green Bay	17.4	15.9	5.5	10.2
Milwaukee	16.8	15.3	5.5	10.2
Detroit, Mich.	14.1	12.6	4.5	7.6
Grand Rapids	13.7	11.7	4.5	9.0
Saginaw	14.7	13.2	4.5	9.3
Evansville, Ind.	17.1	15.6	5.5	†10.5
Indianapolis	17.3	14.8	5.5	†10.2
South Bend	17.3	15.8	5.5	†10.2
Fargo, N. D.	18.2	16.7	5.5	11.6
Huron, S. D.	17.5	16.0	5.5	10.9
Kans. City, Mo.*	14.9	13.4	4.5	8.0
St. Louis*	15.2	13.2	4.5	9.0
St. Joseph	14.9	13.0	4.5	7.9
Wichita, Kans.	13.8	12.3	4.5	7.0

*State tax 2 cents, 1-cent city tax, and 1½-cent federal tax. †Does not include 4-cent state tax. ‡Does not include 3-cent state tax.

Exclusive of state general sales taxes. Discounts to commercial consumers: On purchases per month off tank-wagon prices: 1,000 gal. or more, 1.5 cents off; minimum delivery 25 gal.

Stanolex Fuel Oil in Chicago

Effective April 18, 1940, f.o.b. Chicago, tank-wagon prices: Standard heater oil, 1-99 gal., 8.75 cents; 100-149 gal., 7.75 cents, 150 gal. and over, 7.25 cents. Stanolex fuel oil No. 1, 1-99 gal., 8.5 cents; 100-149 gal., 7.5 cents; 150-399 gal., 7 cents; 400 gal. and over, 6.5 cents. Stanolex furnace oil, 1-99 gal., 8.5 cents; 100-149 gal., 7.5 cents; 150-399 gal., 7 cents; 400 gal. and over, 6.5 cents. Stanolex fuel oil A, 1-399 gal., 5.5 cents; 400-799 gal., 4.5 cents; 800 gal. and over, 4.25 cents. Stanolex fuel oil B, 1-399 gal., 5.5 cents; 400-799 gal., 4.5 cents; 800 gal. and over, 4.25 cents. Stanolex Bunker C fuel oil, 1-999 gal., 4.25 cents; 1,000 gal. and over, 3.25 cents.

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline—Cons'r tank wag.	Divided dlr.	Incl. tax	Kero. tank wag.
Ohio points	16.0	15.0	5.5	*9.0

*Includes state tax of 1 cent.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline—Cons'r tank car	Dlr. tank wag.	Incl. tax	Kero. tank wag.
Atl'tic City, N. J.	12.1	13.2	4.5	7.4
Newark	12.1	13.2	4.5	7.4
Annapolis, Md.	13.85	14.85	5.5	9.5
Baltimore	13.25	14.25	5.5	8.5
Cumberland	14.65	16.65	5.5	10.0
Wash'gton, D. C.	11.50	12.50	3.5	9.5
Danville, Va.	15.45	17.95	6.5	11.0
Norfolk	14.25	16.75	6.5	10.5
Petersburg	14.55	17.05	6.5	11.2
Richmond	14.55	17.05	6.5	10.5
Roanoke	15.75	18.25	6.5	11.0
Charles'n, W. Va.	15.05	17.55	6.5	12.6
Parkersburg	14.35	15.85	6.5	11.2
Wheeling	15.35	17.25	6.5	11.8
Charlotte, N. C.	17.40	17.50	7.5	11.8
Hickory	17.95	19.45	7.5	12.3
Mt. Airy	17.80	19.30	7.5	12.2
Raleigh	17.15	16.5	7.5	11.5
Salisbury	17.45	16.50	7.5	11.9
Charleston, S. C.	15.25	17.75	7.5	9.75
Columbia	16.10	18.60	7.5	11.5
Spartanburg	16.80	19.30	7.5	12.7

Price basis to Essolene undivided dealers: Dealer tank-wagon price less 0.5 cent per gallon. Price basis to commercial consumers, effective March 8, 1937, in Maryland, District of Columbia, and in Arlington and Fairfax counties in Virginia; and March 12 in New Jersey: To contract accounts purchasing at least one full compartment at a time by hose connection, on yearly purchases: From 2,500 to 100,000 gal., consumer tank-wagon price at time and place of delivery; 100,000 gal. per year, consumer tank-car price plus 0.5 cent per gallon. Consumer tank-wagon price generally will be equivalent to dealer tank-wagon price less 0.5 cent per gallon.

Effective January 16, 1939, in North Carolina the commercial consumer schedule became as follows: Single deliveries of 50 gal. or more, consumer tank-wagon price. Single deliveries of less than 50 gal., 4 cents per gallon over consumer tank-wagon price. Generally the posted consumer tank-wagon price will be equivalent to the dealer price, less 0.5 cent per gallon. The above policy also applies in South Carolina, effective January 23, 1939.

Southern District

STANDARD OIL CO. (KENTUCKY)

	Gasoline—Cons'r tank wag.	Net dlr.	Incl. tax	Kero. tank wag.
Atlanta, Ga.	16.0	16.0	7.5	10.0
Augusta	17.0	17.0	7.5	10.0
Macon	17.0	17.0	7.5	9.0
Savannah	16.0	16.0	7.5	9.0
Birmingham, Ala.	16.0	16.0	8.5	9.0
Mobile	16.0	16.0	9.5	8.0
Montgomery	18.5	18.5	9.5	10.0
Jackson, Miss.	16.5	16.5	7.5	9.0
Vicksburg	16.0	16.0	7.5	9.0
Jacksonville, Fla.	15.5	15.5	8.5	8.0
Miami	15.5	15.5	8.5	8.0
Pensacola	17.5	17.5	9.5	8.5
Tampa	18.5	15.5	8.5	8.0
Lexington, Ky.	14.5	14.5	6.5	9.5
Covington	15.0	15.0	6.5	9.5
Louisville	15.0	15.0	6.5	9.0
Paducah	15.5	15.5	6.5	9.0

Price basis to tank-wagon consumers, effective January 4, 1937, 3 cents per gallon below tank-wagon price.

Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax, and 1 cent per gallon on kerosene. Mobile, Ala., has a city gasoline tax of 2 cents per gallon; Birmingham, Ala., has a city gasoline tax of 1 cent per gallon; Pensacola, Fla., has a city gasoline tax of 1 cent. All are included in the table.

Pennsylvania and Delaware

ATLANTIC REFINING CO.

	Gasoline—Cons'r tank car	Dlr. tank wag.	Incl. tax	Kero. tank wag.
Philadelphia, Pa.	12.5	14.0	5.5	10.5
Pittsburgh	13.5	15.0	5.5	10.5
Allentown	13.5	15.0	5.5	10.5
Erie	13.5	15.0	5.5	10.0
*Scranton	12.5	14.25	5.5	10.5
Altoona	13.5	15.5	5.5	10.5
Dover, Del.	...	14.0	5.5	10.5
Wilmington	...	14.0	5.5	10.0

Price basis to undivided dealers, dealer tank-wagon price less 0.5 cent per gallon.

Discount on kerosene, 2 cents per gallon off tank-wagon price on tank-wagon deliveries of 25 gal. or more at one time.

*Voluntary discount of 1 cent allowed to dealers only.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline—Tank truck	Serv. sta.	Incl. tax	Kero. tank wag.
San Francisco	16.5	17.5	4.5	11.5
Los Angeles	16.0	17.0	4.5	10.0
Fresno, Calif.	17.5	18.5	4.5	12.5
Phoenix, Ariz.	20.5	21.5	6.5	*17.5
Reno, Nev.	19.5	20.5	5.5	13.5
Portland, Ore.	19.0	20.0	6.5	13.5
Seattle, Wash.	19.0	20.0	6.5	13.5
Spokane	20.5	21.5	6.5	16.5
Tacoma	19.0	20.0	6.5	13.5

*Includes 5-cent state tax.

Discount to dealers: On gasoline, off tank-wagon price, to 100 per cent dealers, 3 cents. To commercial consumers: On tank-wagon price; on single deliveries of 40 gal. and over, advance quantity discount extended at time of delivery, 3 cents. Service-station schedule applies on single deliveries less than 40 gal. On kerosene in tank-car, transport-truck, and trailer delivery, 3 cents off tank-wagon price; plant deliveries to jobbers, 2.5 cents below tank wagon.

March 18, 1939, split dealer discount was canceled.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline—Cons'r tank car	Dlr. tank wag.	Incl. tax	Kero. tank wag.
Albany	11.7	12.5	5.5	7.3
*Met. New York, Manhat., Bronx, Queens, Brklyn., Staten Island	12.0	13.2	5.5	7.6
Buffalo	12.6	13.6	5.5	7.5
Rochester	13.1	14.2	5.5	8.1
Syracuse	13.0	12.8	5.5	8.2
Portland, Me.	11.5	13.3	5.5	7.4
Manchester, N.H.	12.1	13.5	5.5	8.5
Burlington, Vt.	12.4	14.2	5.5	7.9
Boston, Mass.	10.5	10.5	4.5	7.7
Worcester	11.0	11.8	4.5	7.8
Hartford, Conn.	11.0	11.5	4.5	7.5
New Haven	10.9	10.0	4.5	7.0
Providence, R. I.	10.4	11.5	4.5	7.7

*Does not include 2 per cent city sales tax, which is calculated on basis of net retail price exclusive of state and federal taxes. Metropolitan New York prices are undivided dealer prices; others are split dealer.

Effective August 8, 1940, the company changed its commercial consumer policy in New York and New England to the following:

Full compartment deliveries: Accounts buying less than 20,000 gal. annually, 0.5 cent above the commercial-consumer price; accounts buying from 20,000 to 120,000 gal. annually, commercial-consumer price; accounts buying 120,000 gal. annually and above, 0.25 cent off consumer price. Split compartment deliveries: Delivery of less than a full compartment, 250 gal., commercial-consumer price plus 1 cent. Steel-barrel deliveries: Commercial price plus 3 cents.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline—Tank wag.	Dlr.	Incl. tax	Kero. tank wag.
Denver, Colo.	13.5	...	5.5	10.5
Grand Junction	17.5	...	5.5	12.5
Pueblo	15.5	...	5.5	9.0
Casper, Wyo.	16.5	...	5.5	11.5
Cheyenne	14.5	...	5.5	11.0
Billings, Mont.	17.5	...	6.5	11.0
Butte	15.5	...	6.5	13.0
Great Falls	17.5	...	6.5	12.0
Helena	15.5	...	6.5	12.5
Salt Lake, Utah	16.0	...	5.5	14.0
Boise, Idaho	20.6		6.5	16.0
Twin Falls	21.6	21.6	6.5	16.5
Albu'que, N. M.	16.0	...	6.5	9.5
Roswell	14.0	14.0	7.0	8.0
Santa Fe	17.0	...	7.0	10.0

*Includes city tax of 0.5 cent. †Includes state tax of 1 mill.

Tank wagon represents price to consumers. Dealer represents price to dealers. If no dealer price is quoted, the tank-wagon price applies to all classes of trade.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline—Cons'r tank car	Dlr. tank wag.	Incl. tax	Kero. tank wag.
New Orleans, La.	14.25	16.75	8.5	†11.0
Baton Rouge	15.25	17.75	8.5	‡10.5
Alexandria	15.25	17.75	8.5	‡10.5
Lafayette	15.50	18.00	8.5	‡10.0
Lake Charles	15.25	17.75	8.5	‡10.0
Shreveport	14.00	16.50	8.5	†9.0
Knoxville, Tenn.	18.50	20.00	8.5	12.5
Memphis	16.50	18.00	8.5	11.0
Chattanooga	18.00	17.75	8.5	12.0
Nashville	17.50	18.0	8.5	11.5
Bristol	18.75	18.00	8.5	12.0

Essolene at dealer price less 0.5 cent per gallon to undivided dealers.

†Includes 1-cent parish tax and 1-cent state tax. ‡Includes 1-cent state tax.

Price basis to commercial consumers: Effective May 15, 1937, deliveries of 50 gal. or more in one territory take posted consumer tank-wagon price. Accounts taking deliveries of less than 50 gal. at one time pay posted consumer tank-wagon price plus 4 cents per gallon. Generally, the posted consumer tank-wagon price will be equivalent to the dealer price less 0.5 cent per gallon. Kerosene prices include 1-cent state tax.

Effective February 24, 1939, the company reestablished in New Orleans the commercial consumer policy on motor fuel effective in the rest of the state.

Effective December 12, 1938, the company revised its commercial consumer policy on motor fuel in New Orleans, as follows: Single deliveries of less than 50 gal., consumer tank car plus 2 cents per gallon 50 to 199 gal., consumer tank car plus 1 cent per gallon; 200 gal. and over, consumer tank car plus 0.5 cent per gallon.

Oklahoma and Arkansas

CONTINENTAL OIL CO

	Gasoline—Tank wag.	Incl. tax	Kero. tank wag.
Texarkana, Ark.	13.5	5.5	7.0
Fort Smith	15.0	5.5	8.0
Little Rock	17.25	8.0	8.0
Muskogee, Okla.	13.0	5.5	7.0
Oklahoma City	11.5	5.5	6.5
Tulsa	12.5	5.5	6.0

Tank wagon represents price to consumers. If no dealer price is quoted, the tank-wagon price applies to all classes of trade.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline—Tank wag.	Dlr.	Incl. tax	Kero. tank wag.
Omaha	17.0	15.9	6.5	9.0
McCook	17.5	14.4	6.5	9.5
Norfolk	17.5	15.4	6.5	9.9
North Platte	17.8	15.0	6.5	10.2
Scottsbluff	18.4	15.5	6.5	10.5

Discounts to commercial consumers for tank-wagon deliveries covered only by standard commercial consumers contract, effective January 1, 1935.

Texas

	Gasoline—Tank wag.	Dlr.	Incl. tax	Kero. tank wag.
Dallas, Tex.	11.5	15.5	5.5	6.0
Fort Worth	11.5	15.5	5.5	7.0
Houston	12.0	16.0	5.5	8.0
San Antonio	12.5	17.0	5.5	8.0

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank wagon*
Oleum spirits	16.2
V.M.&P. naphtha	16.5
Cleaners' naphtha	15.5
Stanisol	15.5

*Prices include 3-cent Illinois tax but not 1-cent federal tax nor 2 per cent retail occupational tax.

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 150-gal. lots if covered by contract.

Canada*

3-Star Imperial Gasoline
IMPERIAL OIL, LTD.

	Gasoline—Tank wag.	Incl. tax	Kero. tank wag.
Halifax, N. S.	24.5	10.0	18.0
St. John, N. B.	24.5	10.0	18.0
Montreal, Que.	24.0	8.0	16.5
Toronto, Ont.	24.0	8.0	16.5
Hamilton, Ont.	24.0	8.0	16.5
Winnipeg, Man.	27.0	7.0	21.5
Brandon, Man.	28.0	7.0	22.5
Regina, Sask.	25.0	7.0	20.0
Saskatoon, Sask.	28.0	7.0	23.0
Edmonton, Alta.	25.9	7.0	20.0
Calgary, Alta.	23.0	7.0	18.0
Vancouver, B. C.	21.0	7.0	23.0

*Imperial gallon used in Canada.

Divided dealers pay tank-wagon prices. Discount to undivided dealers, 1 cent below tank-wagon price. In maritime provinces both divided and undivided dealers pay tank-wagon price.

Tank-Wagon Changes

Standard Oil Co. (Indiana) raised the dealer gasoline price 0.05 cent at St. Joseph, Mo., and 0.03 cent at Wichita, Kans., effective August 21. The company also raised the kerosene tank-wagon price 1 cent August 21.

Standard Oil Co. of New Jersey reduced the kerosene tank-wagon price in New Jersey 0.03 cent per gallon on August 20.

Socony-Vacuum Oil Co., Inc., reduced the tank-wagon gasoline price 0.05 cent at Boston, Mass., August 19. Corrections were made in gasoline prices at Portland, Me., Manchester, N. H., and New Haven, Conn. Kerosene tank-wagon prices were lowered 0.03 cent August 20 by Socony-Vacuum at Albany, New York City, Buffalo, Syracuse, N. Y., Portland, Me., Manchester, N. H., Burlington, Vt.,

(Continued on Page 111)

Prices of Refined Products

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of August 27, 1940

The quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents a gallon on lubricating oils. Octane ratings in Middle West, Mid-Continent, and Southwest are based on A.S.T.M. method of testing.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:		
72-74 octane (regular)	.04½	.04¾
63-66 octane	.04	.04¼
60 octane and below	.03½	.03¾
60-62 400 grades:		
72-74 octane (regular)	.04½	.04¾
63-66 octane	.04	.04¼
60 octane and below	.03½	.03¾

NORTH TEXAS—

U. S. Motor grades:		
72-74 octane (regular)	.04½	.04¾
63-66 octane	.04	.04¼
60 octane and below	.03½	.03⅞
60-62 400	.03½	.03⅞

NORTH LOUISIANA (Ark. and N. La. delivery)—

U. S. Motor grades:		
72-74 octane (regular)	.04¾	.05
63-66 octane	.04¼	.04½
60 octane and below	.03¾	.04⅛

ARKANSAS (Ark. and N. La. del.)—

U. S. Motor grades:		
72-74 octane (regular)		.04¾
60 octane and below		.04

CHICAGO (Based on Group 3)—

U. S. Motor grades:		
72-74 octane (regular)	.04⅝	.04⅞
63-66 octane	.04¼	.04½
60 octane and below	.03⅞	.04⅛
60-62 400 grades:		
72-74 octane (regular)	.04⅝	.04⅞
63-66 octane	.04¼	.04½
60 octane and below	.03⅞	.04⅛

PENNSYLVANIA (inland refineries)—

74-76 octane (regular)		.06
72-74 octane		.05¾

CALIFORNIA (domestic movement)—

58-60 400, 65 oct. and higher	.06¼	.07¼
54-58 U. S. Motor	.05	.06½

EAST COAST (domestic)—

U. S. Motor grades:		
New York (Bayonne)*	.05¾	.06½
Philadelphia	.06¼	.06½
Boston	.05¾	.06
Baltimore	.06	.07
Charleston, S. C.	.06¼	.07

*All grades of gasoline ⅛ to ¼ cent less for barge shipments. New York Harbor prices are for New York and New England delivery. Prices for New Jersey delivery ¼ cent lower.

GULF COAST (domestic)—

U. S. Motor grades:		
72-74 octane	.03⅞	.04⅛
70-72 octane	.03⅞	.04
68-70 octane	.03¾	.04
65-67 octane	.03¾	.04

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70		.01¾
Grade 18-55	.02	.02⅛

NORTH TEXAS—

Grade 26-70		.01½
Grade 18-55	.01¾	.01⅞

CALIFORNIA—

75-85 375-390	.04½	.05¼

NORTH LOUISIANA (Ark. and N. La. delivery)—

Grade 26-70		.01⅞

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 l.b.p., 110-flash, 540-550 e.p.	.03½	.03⅝
41-43 gr., 300-320 l.b.p., 110-125 flash, 500-520 e.p.	.03⅝	.03¾
46-48 gr., 210-230 l.b.p., 480-max., e.p.	.03⅞	.04

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

42-44	.03⅞	.04
41-43	.03¾	.03⅞

NORTH TEXAS—

41-43	.03¾	.03⅞

NORTH LOUISIANA (Ark. and N. La. delivery)—

41-43	.03¾	.04

ARKANSAS (Ark. and N. La. del.)—

41-43		.04¼

PENNSYLVANIA (inland refineries)—

46	.04⅞	.05
45	.04¾	.04⅞

CHICAGO (Based on Group 3)—

42-44	.04	.04⅛
41-43	.03⅞	.04

CALIFORNIA (Pac. Coast market)—

38-43 high burning test	.04½	.05½

NEW YORK (Bayonne, N. J.)—

41-43		.048

GULF COAST (domestic)*—

41-43	.04	.04¼

*Barge price ⅛ cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

Range oil	.03½	.03⅝
No. 1 prime white, 38-42	.03¼	.03⅜
No. 1 straw, 38-40	.03¼	.03⅜
No. 2 straw, 32-36	.03¼	.03⅜
No. 3 zero to 10, 28-32	.03⅛	.03¼

NORTH TEXAS—

No. 1 prime white, 38-42		03½
No. 1 straw, 38-40		.03⅜

NORTH LOUISIANA (Ark. and N. La. delivery)—

No. 2, 32-36	.02⅞	.03

ARKANSAS (Ark. and N. La. del.)—

No. 2, 32-36	.03¼	.03½

CHICAGO (Based on Group 3)—

Range oil	.03⅝	.03¾
No. 1 prime white, 38-40	.03¼	.03⅜
No. 2 straw, 32-36	.03¼	.03⅜
No. 3, zero to 15, 28-32	.03⅛	.03¼

NEW YORK (Bayonne, N. J.)—

*No. 1		.048
*No. 2		.041
*No. 4		.041

Barge deliveries ⅛ to ¼ cent under above tank-car price.

Gas Oil and Fuel Oil

(Gas oil per gal., fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil, under 35	.02⅝	.02¾
No. 5, low pour point, 18-22	.72½	.77½
No. 6, 15 and above, 8-14	.50	.55

NORTH TEXAS—

U.G.I. gas oil, under 35	.02⅝	.02¾
No. 5 low pour point, 18-22	.72½	.77½
No. 6, 15 and above, 8-14	.50	.55

NORTH LOUISIANA (Ark. and N. La. delivery)—

10-14 fuel oil, industrial		.70

CHICAGO (Based on Group 3)—

U.G.I. gas oil	.02⅝	.02⅞
No. 5, low pour point, 18-22	.75	.80
No. 5, 15 and above, 18-22	.60	.70
No. 6, low pour point, 10-16	.60	.70
No. 6, 15 and above, 10-16	.45	.55

PENNSYLVANIA (inland refineries)—

36-40	.04	.04½

CALIFORNIA—

Los Angeles:

30-40 gas oil, per bbl.	1.10	1.25
24 plus diesel, per bbl.	1.10	1.25
24 plus diesel (bunkers)	1.20	1.35
12-16 (bunkers at tidewater)	.75	.90
10-16 (cargo lots)	.65	.90
12-17 (tank cars)	.60	.75
10-17 (high sulfur)	.50	.65
San Joaquin Valley:		
10-18 (tank cars)	.50	.70
24 plus diesel, per bbl.	1.10	1.25
San Francisco:		
24 plus diesel, per bbl.	1.35	1.40
24 plus diesel (bunkers)	1.40	1.50
10-16 (bunkers)	.80	.85

GULF COAST—

No. 2 fuel	.03⅝	.03¾
43-47 diesel	.03¼	.03⅜
48-52 diesel	.03½	.03⅝
53-57 diesel	.03¼	.03¾
58-and-above diesel	.03¾	.04
Diesel bunkers		1.50
Bunker C (bulk cargoes)	.85	.90
Bunker C (bunkers)	.80	.85

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil		.041
28-30 diesel (lighterage 6¼c per bbl.)		1.70
28-30 diesel (tank cars)		.041
Bunker C (to ocean-going ships in N. Y. Harbor)		1.25
Industrial fuel (tank cars)	.033	.0385

Lighterage charge 5c bbl. additional.

Bright and Steam Refined

OKLAHOMA (Group 3)—

200-210 D, 10-25		.18
150-160 D, 0-10		.14
150-160 D, 10-25		.13½
100-110 D, 0-10		.13½
100-110 D, 10-25		.13
Steam refined:		
600 dark green (untreated)		.07

PENNSYLVANIA—

Bright Stocks (Pennsylvania Grade No. 8 color, 140-150 at 210, 545-550 flash):

10 pour point	.14½	.15
15 pour point	.13½	.14
25 pour point	.12	.14
Steam refined:		
600	.08	.09
650	.09	.10
600 flash	.10	.11
630 flash	.12	.13

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

0-10 pour point:		
150-3		.08
180-3		.09
200-3		.09½
250-3		.10½
280-3		.11
280-4		.10½
300-3½		.11½
350-3½		.12
400-3½		.12½
500-3½		.13
600-3½		.13½
100-2½ paraffin oil, 10-25		.05¼
10-25 pour point:		
200-3		.09
250-3		.10
280-3		.10½
280-4		.10

GULF COAST—

Pale oils:		
100-3	.05⅛	.05¼
200-3	.07⅛	.07¼
300-3	.07½	.07⅝
500-3½	.08¼	.08½
750-3½	.08⅝	.08¾
1,200-3½	.08¾	.08⅞
2,000-4		.09
3,000-4		.10½
Red oils:		
200-5-6	.06⅞	.07
300-5-6	.07¼	.07½
500-5-6	.08	.08¼
750	.08⅝	.08½
1,200-5-6	.08½	.08⅝

CALIFORNIA (moving to dom. market)

Pale oils:		
100-2½-3	.07¼	.08
200-2½-3	.07¼	.08
300-2½-3	.07¼	.08
400-3-4	.07¼	.08
450-3-4	.07¼	.08
550-3-4	.09	.11
600-3-4	.09	.11
Red oils:		
200-4-5	.07¼	.08
300-5-6	.07¼	.08
350-5-6	.09¼	.11½
400-5-6	.09¼	.11½
450-5-6	.09¼	.11½
500-5-6	.09¼	.11½
600-5-6½	.09¼	.11½
700-6½ plus	.09¼	.11½
750-6½ plus	.09¼	.11½
900-6½ plus	.09¼	.11½

PENNSYLVANIA—

150 vis., at 70° F., 3 color, 400-405 flash.		
Zero pour point		.22½
10 pour point		.21½
15 pour point		.20½
25 pour point	.19	.20
200 vis. at 70° F., 3 color:		
Zero pour point		.24½
10 pour point		.23½
15 pour point		.22½
25 pour point	.21	.22

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (A.m.p.) w.c. scale	.02½	.03

PENNSYLVANIA (inland refineries)—

122-124 (A.m.p.) w.c. scale	.02	.02½
124-126 (A.m.p.) w.c. scale	.02	.02½

NEW YORK—

Wax in bags fully refined:		
125-127 (A.m.p.) wax		.0560
128-130 (A.m.p.) wax	.0560	.0570
130-132 (A.m.p.) wax	.0580	.0585
133-135 (A.m.p.) wax		.0615
135-137 (A.m.p.) wax		.0640
Crude scale:		
124-126 (A.m.p.) w.s.	.02	.02⅛
124-126 A.m.p.) y.s.	.01⅞	.02
Petrolatum in barrels, carload lots:		
Dark green	.02125	.02625
Amber	.02375	.02875
Extra amber	.02625	.03000
Lily white	.04375	.05125
Snow white	.05125	.06000
Cream	.03375	.04125

Export Prices

GASOLINE

GULF COAST—

U. S. Motor	.03⅞	.04
60-62 400	.03⅞	.04½
61-63 390	.03⅞	.04⅝
64-66 375	.03⅞	.04⅞

LOS ANGELES—

U. S. Motor grades:		
Above 69 octane	.06¼	.06½
65-69 octane	.05⅝	.06¼
60-65 octane	.05¼	.05⅝

KEROSENE

GULF COAST—

41-43 water white		.04

LOS ANGELES—

41-43 water white	.05	.05¼

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.a.s. in bbl.)—

Cylinder stocks:		
600 S.R. unfiltered		.16
630 S.R. unfiltered		.18
600 flash, S.R.		.19
650 flash, S.R.		.21
Bright stock:		
Light, 25 pour point		.22

NEUTRAL OIL

200-3 color		.27
150-3 color		.25

PARAFFIN WAX

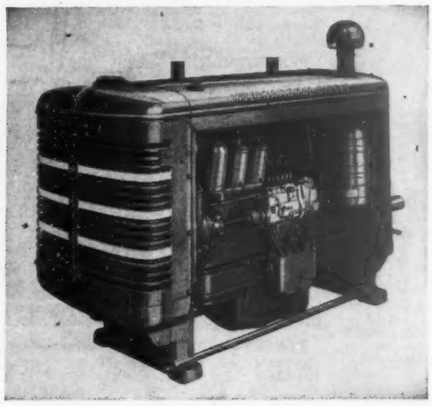
NEW YORK (prices per lb.)—

123-125 A.m.p.	.05250	.05600
125-127 A.m.p.	.05375	.05600
128-130 A.m.p.	.05600	.05875
133-135 A.m.p.	.06150	.06250
135-137 A.m.p.	.06400	.06500
Crude scale:		
124-126 w.s.	.02	.02⅛
124-126 y.s.	.01⅞	.02

EQUIPMENT PROGRESS...

International Harvester Announces New 22-Hp. Valve-in-Head Engine

The new International U-2 power unit shown in the accompanying illustration is a compact, 4-cylinder, valve-in-head engine, with 3-in. bore and 4-in. stroke.



It develops 22 net horsepower when operating on gasoline at regular full-load governed speed of 1,800 r.p.m. Equipment for operation on natural gas, distillate, or kerosene is available. To add to the distinctive appearance of this new power unit, standard finish is a bright red.

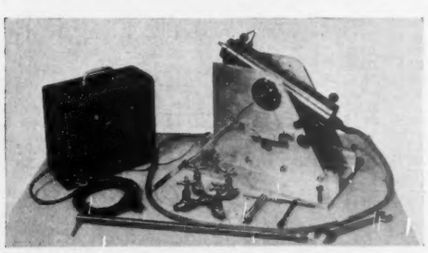
In designing the U-2 the engineers have profited by International Harvester's experience in building some 200,000 engines of the U-2 type. The combustion chamber is shaped to give complete control of rate of combustion and prevent engine knocking. Low fuel consumption with maximum power output and increased engine life result from this combustion control.

An oil filter with an inexpensive, highly efficient, replaceable element keeps the oil clean and makes it possible to use the oil a long time without change. A gear-type pump delivers oil under pressure to the engine parts through drilled passages. Main and connecting-rod bearings are of the easily replaceable precision type. The crankshaft is electrically hardened by the Tocco method—a high-frequency induction process that makes the bearing surfaces file-hard but leaves the rest of the shaft tough and strong to withstand stresses. Cylinders are easily replaceable with exact duplicates.

Engineering Laboratories Has New Pressure Viscosimeter

Engineering Laboratories, Inc., Tulsa, announces the first of a series of new testing instruments—the Pressure Viscosimeter, Assembly No. 1600, Type D.

The Humble pressure viscosimeter is a rugged and simple laboratory instrument designed to measure the



viscosity of subsurface samples of oil from a small sample, and under various conditions of temperature and pressure. The apparatus consists essentially of a removable, accurately bored, cylindrical barrel of ¼-in. nominal internal diameter, in which a closely fitting steel ball rolls through the oil with the barrel inclined at a definite angle. The ball makes contact at one end of the barrel with an insulated electrode, and actuates a buzzer. The length of time for the ball to roll down the barrel is measured by a stop watch.

The removable barrel is held in place in the cylinder by a nut in such a way that after the sample of oil has been placed in the viscosimeter, the barrel can be moved to allow the free circulation of oil through and around the barrel. In this manner, when the cylinder is turned on the trunnions, the ball rolls from one end of the barrel to the other and circulates the oil to insure proper mixing of the sample. The upper portion of the steel cylinder is enlarged and forms a tapered chamber which acts as a reservoir for the oil, and affords space for agitation to insure equilibrium between the gas and oil. After the oil sample has been circulated around the barrel, this sample is enclosed inside the barrel by a plunger on the upper end and a gasket at the bottom. With the cylinder turned in a position so that the top of the barrel is down, the ball will come to rest at the lower end of the barrel. As the cylinder is turned on the trunnion to the desired angle the ball rolls through the oil at a speed which is a measure of the viscosity of the oil.

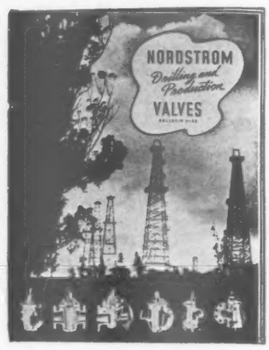
It is necessary to calibrate the instrument both before use and periodically by using several fluids, the viscosity of which has been determined by a calibrated Ubbelohde suspended-level capillary instrument. The densities of the calibrating fluids are determined by a pycnometer. These calibration curves are plotted with the roll time, times the difference between the density of the ball and the density of the oil in grams per cubic centimeter, as one coordinate and the viscosity in centipoises as the other coordinate. From these calibration curves it is then a simple matter to determine the viscosity of a sample.

Continental Opens Two Texas Stores

Announcement has been made of the opening of a new store at La Ward, Tex., by Continental Supply Co. The manager will be F. W. Harlow. Continental is also reopening its store at Hebbronville, Tex., which will be under the direction of H. A. Bradley.

Merco Nordstrom's Bulletin Shows Valve Applications

Illustrated with approximately 100 photos of lubricated-plug-valve applications in drilling and production, a new bulletin has been issued by Merco Nordstrom Valve Co. Detailed cross-sectional views of various types of valves for oil and gas-field services are shown, including the rectangular and round-opening 10,000-lb. test valves. Operating data regarding each type of valve is included as well as descriptive material of the processes of manufacture.



Of the several score of interesting installation views, valves are shown in service on boiler lines, gas and water lines, mud lines, blowout preventers, christmas trees, repressuring systems, tank batteries, separator lines, manifolds, meter settings and transmission lines. This bulletin is beautifully printed on enameled stocks and has a cellophaned cover. Copies of the bulletin (No. V-132) may be obtained by writing to Merco Nordstrom Valve Co., 400 Lexington Ave., Pittsburgh, Pa.

Towery Appointed B&B Agent

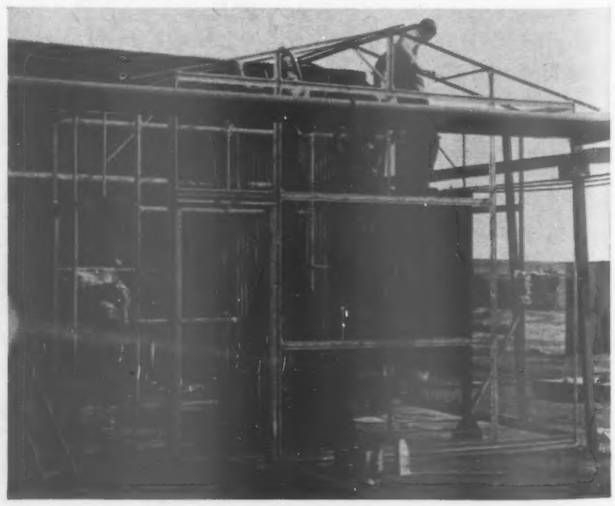
Broderick & Bascom Rope Co. has announced the appointment of Jack Towery as its sales representative in the Louisiana-Arkansas territory, also covering East Texas and Mississippi oil fields. His headquarters will be at Houma, La. Mr. Towery has had considerable experience and is well acquainted in the oil fields, having been connected with the Pelican Well Tool & Supply Co. during the past 5 years in the territory he is now covering for B&B.

NEW TYPE BUILDING PROTECTS INSTRUMENTS IN CALIFORNIA

In order to provide a sturdy and permanent, yet inexpensive structure for protecting meters and gages, a major oil company recently erected a building of the new Lindsay Structure at its refinery in the San Joaquin Valley of California.

The building is made of patented Lindsay Structure materials. Lindsay Structure is the name given to a new method of combining sheet metal, framing, and fittings into portable structures that are strong, light, and relatively inexpensive. Unlike most steel buildings, the sheets are placed under tension by a patented method of assembly that binds the structure together into an integral unit which neither works nor loosens.

The new building is light weight because the "pretensed" panels take the place of diagonals, gussets, or struts and actually reinforce the framing. The structure is unusually mobile, since it can be taken down and moved from place to place and rebuilt without impairing its strength. Changes can be easily made by adding or removing panels. Window frames are spot welded to the panel sheets and can be replaced by regular sections.



New Oxweld Regulators for Welding and Cutting

The Linde Air Products Co., a unit of Union Carbide & Carbon Corp., announces the addition of three new single-stage general service regulators to its Oxweld line of welding and cutting apparatus. These regulators, the Oxweld R-80 oxygen regulator for the delivery of oxygen at working pressures up to 200 lb. per sq. in., the Oxweld R-81, its companion acetylene regulator, and the Oxweld R-82 fuel-gas regulator, feature simplicity of design and reliability of operation. They are strongly built and are designed to give completely dependable performance in all welding, cutting, and deseaming operations where simplicity of construction and large capacity are demanded, but where the refinements of Oxweld two-stage regulators are not required.

The R-80 and R-81 regulators are of the stem type—that is, the valve closes with the incoming pressure, thus assuring positive seating action. The materials used for the valve seats are selected for efficient service and long life. The passageways are of sufficient size to permit unrestricted flow of gases. In addition, the R-80 oxygen regulator has a special inlet screen formed of a double thickness of fine mesh to filter out dirt and foreign particles. Since the R-80 and R-81 have only a few working parts, the occasional maintenance which may be required can be performed quickly and inexpensively.

The third regulator, the new Oxweld R-82 fuel gas regulator, also is of the stem type and is for use with various other gases, such as "Pyrofax" gas, propane, and butane. It has the same operating advantages and construction features as the R-81 acetylene regulator.

Crowe Offers Burn Preparation

M. B. Crowe, president of Koalt Engineering Co. and Crowe Chemical Co., announces the latter company is now offering to industry a product known as W. P. Emulsion No. 7, for first aid for burns, including sunburn. This preparation has had nearly 3 years of clinical experience by members of the medical profession. It relieves the burn pain promptly, is clean, easily applied, quite pleasing to the patient, nongreasy, or sticky.

Bauer Named General Sales Manager for Witte Engine

Ed H. Witte, president of the Witte Engine Works, Kansas City, Mo., has announced appointment of Frank K. Bauer as general sales manager and company secretary. Mr. Bauer was chosen by the company as a result of his successful sales record with the National Battery Co. He served with the latter organization for the past 17 years. He was promoted to district sales manager in 1927, Kansas City division sales manager in 1933, and general sales manager at St. Paul general offices in 1937. During this period he supervised light-plant generator and battery sales as well as directed automotive-battery sales from their nine factories. In heading the Witte sales force, Mr. Bauer plans to bring about a substantial increase in the number of representatives and distributors.

FRANK K. BAUER

AMONG EQUIPMENT MEN...

Seger Named Division Sales Manager by Bethlehem

G. A. Tompson, vice president of Bethlehem Supply Co., announces the appointment of C. H. Seger, Jr., as division sales manager, to be located in Houston, Tex., under the direct supervision of C. C. Crider, southern-division manager. Mr. Seger has been a resident of Tulsa for a number of years, having graduated from Tulsa Central High School. He received his degree in finance and banking from the University of Illinois. Mr. Seger was formerly connected with the National Bank of Tulsa, handling principally oil credits, and is widely known in the oil fraternity. He became associated with Bethlehem in 1938 as credit manager, serving in that capacity up to this time.

C. H. SEGER, JR.

Roebling Makes Laseter Head Of New Export Division

The John A. Roebling's Sons Co., of Trenton, N. J., manufacturers of wire rope, electrical wires, and cables, announces the creation of a new export division to be located at 19 Rector Street, New York City. Coincidental with the creation of this new division, the Roebling company announced appointment of William P. Laseter as manager.

W. P. LASETER

Mr. Laseter, a native of Georgia, was graduated from the Georgia Military College shortly before this country's entrance into the World War. After receiving his commission at Fort McPherson (Atlanta), he was sent immediately oversea. Since 1919 Mr. Laseter has been identified with Latin American trade—a goodly portion of his 21 years in the export business having been spent in Cuba and Mexico. He goes to Roebling from the Oil Well Supply Co., where he served as assistant manager of the export division, as well as president of Cia. Consolidada "Oilwell," S.A., its Mexican subsidiary.

BUSINESS NOTES

Dissolution of the partnership of Joseph H. Bovaird and George W. Bovaird in the general oil-well supply business known as Bovaird & Co., and continuation of the business by George W. Bovaird, has been announced. Joseph H. Bovaird has announced his intention to retire from business with his withdrawal from the partnership after many years of activity in business. The firm will be continued under the name of Bovaird & Co.

M. J. Tennes, Jr., has been elected president of Shafer Bearing Corp., 35 East Wacker Drive, Chicago, manufacturer of Shafer self-aligning roller bearings. Mr. Tennes has been vice president and sales manager of the company for the past several years. At the same meeting of the directors A. H. Williams was elected vice president and Ray P. Tennes, secretary and treasurer. Mr. Williams has been chief engineer, and Ray P. Tennes, assistant secretary and treasurer.

Arch F. Campbell, district manager for Waukesha Motor Co., Tulsa, on August 9 was married to Miss Katherine Bowden of Tulsa. The couple was married at Claremore, Okla., and spent a honeymoon trip in Colorado, Wyoming and Montana.

Durkee Joins L. K. Pump Valve

J. B. Durkee has been named sales representative in the Gulf Coast and Mid-Continent territories for L. K. Pump Valve Co., Houston, Tex. After working in Texas oil fields as roughneck and assistant superintendent, Mr. Durkee served 8 years as sales representative for A. M. Byers Co., moving to Houston in 1934 to become district manager for the company. He recently was sales representative for McEvoy Co.

Cook Joins Peerless Pump

Claude C. Cook, for 12 years branch manager and later plant manager for a western pump manufacturer, has become associated with the Peerless Pump Division of Food Machinery Corp. In his new executive capacity he will make his headquarters at the Los Angeles, Calif., plant. Prior to his recent affiliation he was, for years, employed by United Iron Works, Inc., of Joplin and Springfield, Mo., as engineer in the drilling and pumping divisions.

AXELSON MANUFACTURING HOLDS ELEVENTH ANNUAL PICNIC

The eleventh annual Axelson employes picnic was held Saturday, July 27, at the American Legion Stadium at Montebello, Calif. Over 1,500 Axelson employes and their families were in attendance during the course of the day. Games for young and old occupied the attention of those attending from 8:30 in the morning until 5:30 at night. The tantalizing strains of music of a good dance orchestra held most of the crowd until 11 p.m. According to the committee in charge of arrangements, this year's picnic was the largest to date.

Three generations of one family well known to the oil industry for nearly half a century are pictured here. Left to right: Jack Axelson; C. F. Axelson, retired; J. C. Axelson, president; G. A. Axelson, chairman of board; and D. F. Axelson, vice president of Axelson Manufacturing Co.

CLASSIFIED ADVERTISING

Patent Attorneys

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212 Kellogg Building, Washington, D. C.

Leases and Drilling Blocks

LEASES—East Texas, La., South Ark. 20 acres up, dollar acre up.—Owners—Address Attorney, Box 1122, Little Rock, Ark.

BROKERS and SALESMEN

A complete SERVICE. EXPERTS in every department of the Oil Business at your SERVICE; a REAL SET-UP. The best opportunity ever offered you. Leases in large or small lots at
WHOLESALE PRICES
Write today and get started right.
OIL BROKERS EXCHANGE
Santa Fe, New Mexico

CRANE CO., oil possibilities, cheap fee land, 3 mi. E Ward Gulf-Western drilling. J. G. Smith, 215 Littlefield Building, Austin, Texas.

SPECIALIZED Geophysical investigations conducted for petroleum promise. In touch with many opportunities to and for development of drilling blocks. P. O. Box 364, Fort Worth, Texas.

MINING CREEDE COLORADO
Are you interested in mining then write Norman Alspaugh, Creede, Colorado, and learn what the famous oil mining camp of Creede has to offer in the mining industry.

FOR SALE Oil and gas leases and small production located in Kentucky shallow field, also tracts of proven Fluorspar and zinc deposits. Reports on request. W. P. HARLEY, Bowling Green, Kentucky.

SOUTH Louisiana Producing Royalties: Wildcat leases and shooting blocks, inquiries invited. John Derryberry, Box 304, DeRidder, La.

WELL LOGS, Drillers' logs of approximately 4,000 wells drilled in New Mexico are available from Well Log Division, New Mexico Bureau of Mines & Mineral Resources, Socorro, New Mexico. Write for price list C.

OPPORTUNITY for you in Bates County, Missouri, well just spudded in. John Eger, Rich Hill, Missouri.

HAVE proven acreage, 5 sands to 1400 ft. checkerboard for drilling or liberal allowance for financial aid. 2540 NW 15, Oklahoma City, Okla.

OIL PRODUCTION or lands, large and small. If in the market to buy or sell we should do some trading. Will offer nothing I will not help buy.
E. B. REEVES
Box 13, Alanreed, Texas.

SHOT-HOLE and CORE DRILLING 1,800-ft. hole. Outfit ready for immediate call. Phone 58, Covington, Okla. Box 173.

Leases and Drilling Blocks

EAST Texas oil leases. $2.00 acre. Near test and large Co. holdings. L. Lahm, 2931 Missouri Ave., St. Louis, Missouri.

NEW MEXICO
STATE OIL AND GAS LEASES
40 acres and multiples thereof. In the Hot Spots. Buy direct. Save those dollars. No middle man to pay; no salesman to bother you! Twenty years in the business without a complaint. Write for information.
HARRY S. WRIGHT
New Mexico State Lessee
Wright Bldg., Farmington, New Mexico

CRANE-WARD County 20 ac. cheap in fee, under Magnolia lease. J. G. SMITH, 215 Littlefield Bldg., Austin, Texas.

NEW MEXICO
Oil and Gas Leases and Royalties.
ROY G. BARTON, Hobbs, N. M.

FOR SALE—10 acres in Johnston Co., Okla.; 10 acres in Sequoyah Co.; 10 acres in Cherokee Co. Barry, 3505 Legation St. N. W., Washington, D. C.

Warehouse Facilities

WAREHOUSE space, 1,000 square feet or part, with desk, phone and shipping service.
LARKIN PACKER CO.
Tulsa, Okla.

Survey Service

REMEMBER EAST TEXAS
When all other methods fail, employ my divining or dowsing method. If oil exists this method finds it. Faults, broken treacherous areas accurately defined. Our Watson #2, first producer Wilmington, Calif. field, located by this method. More reliable than mechanical geophysics. Ask any unbiased oil authority. Many years' experience. A wise man investigates. George Miller, 1548 Post, Torrance, California.

Wanted

WANTED: Competent party for Drilling and Operating Agreement, 480 acres of Federal B land in Twp. 17 S., Range 30 E., N.M.P.M., Eddy County, New Mexico. Address Mrs. Nellie N. Stevens, Las Cruces, New Mexico

Mailing Lists

ROYALTY owners, Oil investors, Unit holders, Stockholders in Oil and Royalty Companies. Personnel lists of every branch of oil industry. All by States. We buy lists. New catalogues ready. Oil Industry Mailing List Co., Tulsa Loan Bldg., Tulsa, Oklahoma.

Royalties

ANDREW J. BARRETT
The Philtower
Tulsa, Oklahoma

Brokers—Salesmen

Sell in the most active area in the United States—The Permian Basin of West Texas and Southeastern New Mexico. From the standpoint of royalty investors this area has much to offer. Can supply you with choice non-producing royalties located on geophysical highs. Also drilling blocks, close in acreage to production, or wildcat leases. I maintain my own field men who cover this area for me. All offerings meet the requirements of the Security and Exchange Commission. Inquiries invited.

B. D. BUCKLEY
Paul Brown Bldg., St. Louis, Mo.

PURCHASERS AND DISTRIBUTORS
PRODUCING ROYALTIES
Registered with S. E. C.
INVESTMENT ROYALTIES, LTD.
Ramsey Tower, Oklahoma City, Okla.

WE ARE IN THE MARKET FOR
DISTRESSED OIL PAYMENTS
WILDCAT OR PRODUCING
OIL ROYALTIES
Send Plat and Full Particulars
Immediate Action
F. A. SANSOME, 522 5th Ave., New York.

For Sale—Maps

R. B. ROBINSON MAPS
Jackson, Miss. 3-Hart Bldg., Across Street from Heidelberg Hotel. Ownership maps All Over Mississippi.

1940 OIL AND GAS FIELD MAP
Texas, Eastern New M. Price $1.00.
Wildcat Map $3.00 Published monthly.
ZINGERY OIL MAP CO., Fort Worth, Tex.

CLASSIFIED ADVERTISING RATES

Classified advertising rates: First insertion, 35 cents a line; each additional insertion, 25 cents a line, PAYABLE IN ADVANCE. Six words usually make a line. Count as a word each one-letter word and each group of figures. White-space computed at regular line rate. Allow two extra lines for blind ads. Ads of less than three lines not accepted. No formal acknowledgment is made, and proofs cannot be shown in advance of publication.

	1 time	2 times	3 times	4 times		1 time	2 times	3 times	4 times
3 Lines	$1.05	$1.80	$2.55	$3.30	7 Lines	$2.45	$4.20	$5.95	$7.70
4 Lines	1.40	2.40	3.40	4.40	8 Lines	2.80	4.80	6.80	8.80
5 Lines	1.75	3.00	4.25	5.50	9 Lines	3.15	5.40	7.65	9.90
6 Lines	2.10	3.60	5.10	6.60	10 Lines	3.50	6.00	8.50	11.00

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Classified Display is set with a border and may be used in one or two column sizes.

1 Inch	1 time	$5.00
1 Inch	13 times	4.50 per inch
1 Inch	26 times	4.00 per inch
1 Inch	52 times	3.50 per inch

This space may be contracted for over a period of one year from the date of the first insertion and is PAYABLE IN ADVANCE, MONTHLY.

We reserve the right to withhold all advertising of questionable character. To avoid delay be sure to send remittance with copy. We will set your ad in the smallest amount of space possible and refund all overpayments. One-time insertions will not be run until fully paid. Forms close MONDAY NOON before each issue date.

THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

Situations Wanted

REFINERY EXECUTIVE thoroughly trained and experienced in design construction and operation of refineries and the manufacture of all products. Efficient, energetic, diplomatic. Desires permanent connection or design construction and operation on partnership basis. Now employed. Box K-675, The Oil and Gas Journal, Tulsa, Oklahoma.

ENGINEER: 12 years' refinery experience estimating, designing, and supervising construction and maintenance for major oil company. Familiar all types construction. Go anywhere. References. Box K-750, The Oil and Gas Journal, Tulsa, Oklahoma.

YOUNG, up-to-date Petroleum Engineer at present employed as production superintendent for independent, desires change. Address Box K-752, The Oil and Gas Journal, Tulsa, Oklahoma.

REFINERY EXECUTIVE with ten years experience as superintendent large Mid Continent refinery widely experienced in manufacture all products, design construction, labor problems, desires connection with progressive company. Box K-753, The Oil and Gas Journal, Tulsa, Okla.

Help Wanted

DESIRE to contact rotary drillers who worked in Wyoming prior to 1929. Address P. O. Box 2603, Tulsa, Oklahoma.

WANTED: Experienced micropaleontologist for duty in West Indies by a major oil company. Applicant should be competent and have good background in study of Tertiary and Upper Cretacious Faunas South American or Mexican experience and a knowledge of Spanish desirable but not essential. All replies should give experience in detail, advise age and marital status, state salary expected. Box K-751, The Oil and Gas Journal, Tulsa, Okla.

WELDING engineer, graduate metallurgist with experience in welding practice. Battelle Memorial Institute, Columbus, Ohio.

Legal Blanks

BURKHART'S legal blanks and general forms serving Mid-Cont. oil field since 1908—Okla. Kans. N. Mex. Tex. Ala. Ark. Fla. Ga. Ill. Ind. Ky. La. Mich. Miss. Mo. Neb. N. Dak. Tenn. Wyo. Free catalog, samples on request. Burkhart Ptg. & Sta. Co. 115 S. Cinn. Tulsa. Oklahoma.

Incorporations

DELAWARE CHARTERS: Complete service $35. Submitted forms. Chas. O. Guyer, Inc., Wilmington, Delaware.

CAPITAL SEEKERS
Put your project before 260 Key-Men. Cost trifling. Details free. AMSTER LEONARD, Fox Theater Building, Detroit, Michigan.

Geophysical Service

HOMER L. FITCH, GEOPHYSICIST AND LOCATION ENGINEER
WHY drill dry holes? Our method only locates structures which contain oil or gas. Locations made by us will produce or no pay. Drawer 711, Brownsville, Texas.

Ranches—Farm Lands

1565-ACRE White Clover stock Farm, rich, black, sandy land. 850 acres open, on river road highway and Mississippi River. Price $26.00 per acre. Terms. Write P. O. Box 429, B. E. PERKINS, Baton Rouge, Louisiana.

Financing

JOHN MORRIS, Box 5411, Philadelphia, studied records 5000 financial houses. Found only 191 buy new issues. $4.00.

Exchange Equipment

WILL trade refinery equipment three 85 HP Hercules Diesel Engines and power plant for model A 401-A pr model J 451-A Podbielniak Manually Operated Low Temperature Fractional Distillation Apparatus, 100 HP and 125 HP Exhaust Steam Turbines, Admiralty metal open condenser sections. Must be in good condition. Box K-740, The Oil and Gas Journal, Tulsa, Oklahoma.

CLASSIFIED ADVERTISING

For Sale—Equipment | **For Sale—Equipment** | **For Sale—Equipment** | **For Sale—Equipment**

HOT OIL PUMPS

2 Wilson-Snyder 14x7x24 duplex, steam driven hot oil pumps. Forged steel fluid end, piston type, water cooled stuffing boxes, hollow ball valves, removable liners. Good for 900#P at 800 deg. F. Operates on 80-100# steam pressure, 150-200# differential, 25# back pressure. Displacement 150 B.P.H. at 27.5 piston speed per min. or 110 B.P.H. at 20.2 piston speed per min.

1 Dean 12x3½x12 duplex, steam driven, plunger type hot oil pump. Ball valves, forged steel liquid ends. Completely reconditioned.

Other reconditioned items such as steel valves, Mercos, centrifugal pumps, instruments, diaphragm and motor valves, controllers, etc.

One 2500-barrel skimming plant, 2" tubes and headers in the radiant and convection sections of the heater. Towers etc. intact.

All items subject to prior sale.

BUYERS SERVICE & ENGINEERING CO.
P. O. Box 552, West Tulsa, Okla.

FOR SALE

One gasoline drilling rig with two 85 H.P. Waukesha motors and unitized draw works complete.

10,000 Ft. 2⅛" seamless tubing, used in flowing wells only.

10,000 Ft. 7" O.D. 26# seamless casing, once run.

15,000 Ft. 4½" O.D. seamless drill pipe equipped with both regular and full hole tool joints.

In addition to the above we have 20,000 Ft. screw line pipe in Oklahoma; also drilling rig capable of drilling to 6500 feet, complete stock of line pipe, casing, drilling and pumping equipment.

Wire, Write or Phone for Prices.

Louisiana Iron & Supply Co.
Shreveport, La.

• REFINERY EQUIPMENT • VALVES & FITTINGS • STORAGE TANKS

• PRESSURE VESSELS • PIPE—ALL SIZES

Write Now for Your Copy of Our New Listings

SONKEN-GALAMBA SUPPLY COMPANY

W. C. Berry and H. J. Galamba
Riverview at Second, Kansas City, Kansas

Robt. W. Dudas
2100 S. Union, Tulsa, Oklahoma

ONE 7' x 12' two-door steel tool house. One 4-in-line roller bearing crown block with 36" maganese steel sheaves on 20" beams. A-1 shape. 1300 Ramsey Tower, Oklahoma City, Oklahoma.

REFINERY PRICED FOR QUICK DISPOSAL. 500-barrel topping plant well equipped located Farmington, New Mexico. AMERICAN INDIAN OIL & REFG. CO., Farmington, N. Mex.

FOR SALE—Or will trade for old or discarded material, reconditioned pipe, casing and supplies, for cable tool drilling. Lee Morrison Supply Co., Bartlesville, Okla.—Tulsa Representative, phone 4-3355.

25 K.W. and 40 K.W. Gas Engines, 220 volts, D.C. Two 100 K.W. Gas Engine-Generator Sets, 220 volts, D.C. 7x6 Ingersoll-Rand ER-1 Air compressor. Six-inch Oster Pipe Threading Machine. Also large stock of lathes, pipe machines, milling machines, etc. Send for our list.

Terms to suit.

CINCINNATI MACHINERY & SUPPLY CO.
26 West 2nd St., Cincinnati, Ohio

FOR SALE

Bargain Prices—Shell Stills, Towers, Pressure Vessels, Coal Handling Equipment, Used and Surplus Equipment—Can be inspected our Coffeyville plant.

THE NATIONAL REFINING Co.
Coffeyville, Kansas

TRACTORS

Caterpillars, crawler type, size "35," $375; size "65" with nigger-head winch $750; Caterpillar RD8 with bulldozer $2000; Allis-Chalmers Model L with bulldozer $1750. Guaranteed, slightly used. O. C. Evans, Mt. Sterling, Ky.

BUCKEYE PIPE LINE DITCHER

Model 36—Capacity 18" to 30" Wide, 5½ Ft. Deep—Twin City Engine—Good Shape—Bargain.

R. NIEHAUS
900 Wainwright Building
St. Louis, Mo.

Equipment Wanted

WANTED
FOR DISMANTLING PURPOSES
OBSOLETE REFINERIES
REFINING EQUIPMENT
BULK PLANTS—POWER HOUSES

WALLACK BROS.
1840 W. 74th Pl., Chicago, Ill.

WANTED: One servicing unit to pull tubing and rods approximately 4000 feet deep. Preferred in East Texas. Must be in good condition. Write Post Office Box 2451, Tulsa, Oklahoma.

Oil Industry Printing

OIL FIELD LEGAL BLANKS

Leases, assignments, releases, township plat books, well records, etc. Request on your letterhead gets free catalog. Olds Press, 215 East Third St., Tulsa, Okla.

Gulf Coast Markets

(Continued from Page 105)

material readily available. One buyer, however, reported he was unable to fill an inquiry on the coast and had to go inland for the material. However, few actual inquiries were reported from any source, and for the most part the market was more anticipated than actual. Various suppliers, however, were fortunate in not having an excessive volume of material on hand, and are in a position to hold out for their quoted prices, which on Bunker C grade of fuel is from 80 to 85 cents firm. In their quotation firmness they are being backed up by continued reports of increased inquiries being received by inland refiners.

Coastal neutrals continue sloppy with little new demand in prospect. Suppliers are free on concessions for immediate movement.

Tank-Wagon Changes

(Continued from Page 106)

Boston and Worcester, Mass., and Providence, R. I.

Standard Oil Co. of Louisiana raised the gasoline tank-wagon price 2 cents at Chattanooga on August 17.

Standard Oil Co. of Kentucky lowered the tank-wagon and net dealer gasoline prices 0.05 cent, on August 16, at Vicksburg, Miss.; cut 1.5 cents at Mobile, Ala., August 9; reduced 0.05 cent, August 15, at Augusta and Savannah, Ga.; and raised 1.5 cents, August 14, at Jacksonville, Miami, and Tampa, Fla. The company discontinued reference to consumer discounts at Tampa, Fla.

Rocky Mountain Runs

Production estimates for week ended August 24:

NEW MEXICO	
Arrowhead	2,950
Cooper	3,110
Corbin	40
Eaves	660
West Eunice	260
Eunice	16,390
Halfway	190
Hardy	2,980
Hobbs	9,230
Jal	420
Langlie	3,960
Lynch	380
Lynn	810
Mattix	4,390
Monument	17,570
North Lynch	30
Penrose	4,910
Rhoades	180
Skaggs	80
Skelly	1,770
South Eunice	2,160
South Lovington	1,260
Vacuum	11,550
Artesia-Maljamar	16,420
Aztec-Bloomfield	10
Getty	100
Hogback	200
Rattlesnake	260
Table Mesa	90
Total New Mexico	102,360
MONTANA	
Kevin-Sunburst	4,220
Border	60
Cat Creek	520
Cut Bank	10,940
Dry Creek	790
Pondera	1,000
Total Montana	17,530

CRUDE-OIL PRICES IN REPRESENTATIVE FIELDS

Complete crude-price schedules are now being published in the first issue of each month. The last complete schedule was published in the August 1 issue. All changes in crude-oil-price schedules will be published completely in the first issues following the announcement of the changes. Following are representative crude-price schedules in barrels (42 gal.):

East Texas	$1.10
Conroe	1.27
Tepetate, Louisiana	1.03
Smackover, Arkansas, heavy	.73
Illinois basin	1.15
Pecos County, Texas	.78
Lance Creek, Wyoming	.77
Bradford, Pennsylvania	2.00

Gravity Schedules

Top prices include all gravities above grades designated, and low prices include all gravities below grades designated:

	Signal Hill, California*	Oklahoma, Kansas	Gulf Coast, Texas
14-14.9	$0.65	....	....
15-15.9	.65	....	....
16-16.9	.65	....	....
17-17.9	.65	....	....
18-18.9	.65	....	....
19-19.9	.69	....	$0.86
20-20.9	.73	$0.70	.88
21-21.9	.78	.72	.90
22-22.9	.82	.74	.92
23-23.9	.86	.76	.94
24-24.9	.90	.78	.96
25-25.9	.95	.80	.98
26-26.9	.99	.82	1.00
27-27.9	1.03	.84	1.02
28-28.9	1.07	.86	1.04
29-29.9	1.10	.88	1.06
30-30.9	1.14	.90	1.08
31-31.9	....	.92	1.10
32-32.9	....	.94	1.12
33-33.9	....	.96	1.14
34-34.9	....	.98	1.16
35-35.9	....	1.00	1.18
36-36.9	....	1.02	1.20
37-37.9	....	1.04	1.22
38-38.9	....	1.06	1.24
39-39.9	....	1.08	1.26
40-40.9	....	1.10	1.28

*Effective Feb. 1, 1940.

New Crude Prices

Middle Western States

OHIO OIL CO.
(Effective August 21 and 23, 1940)

Illinois old fields	$1.00
Illinois basin	1.15
Princeton, Ind.	1.00
Western Kentucky (June 9, 1939)†	.90
Birk City, Ky. (June 9, 1939)¶	.90
Corydon, Ky. (June 9, 1939)	.90
Greendale, Porter, Crystal and Wise, Mich. (Aug. 24, 1940)*†	1.12
Buckeye, Bentley, Edenville, Beaverton, Mich. (Aug. 24, 1940)*	1.10
Freeman-Redding, Mich. (Aug. 24, 1940)‡	1.07
Arenac, Mich. (Aug. 24, 1940)*	.89
West Branch, Mich. (Aug. 24, 1940)*	.92
Allegan-Kent and Ottawa, Mich. (Aug. 25, 1940)	1.18
Bloomingdale and Columbia, Mich. (Apr. 27, 1940)¶	1.08
Muskegon	1.00
Sherman and Freeman, Mich. (Aug. 25, 1940)‡	1.07
Eastern Kentucky:	
Big Sandy River (Aug. 21, 1940)†	1.12
Kentucky River (Aug. 21, 1940)†	1.20

*Simrall Corp. †Ashland Refining Co. ‡Pure Transportation Co. ¶Sohio Oil Co. Bloomingdale posted by Tri-Lakes Corp. Kent County by Naph-Sol Refining Co. On May 25, 1940, Sohio posted $1 per barrel in the Griffin field in Gibson County, Indiana, and Wabash County, Illinois, and the North Griffin, South Griffin, Phillipstown, New Harmony and Irons in Wabash and White counties, Illinois. Allegan, Kent and Ottawa posted by Commonwealth Pipe Line Co.

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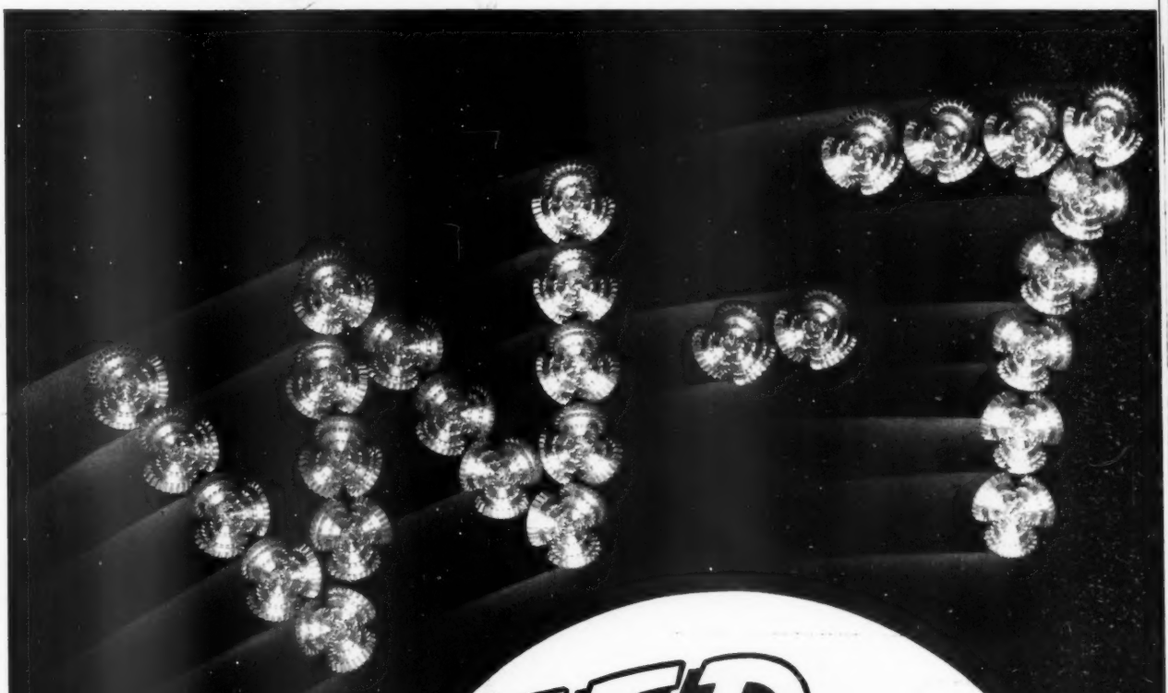

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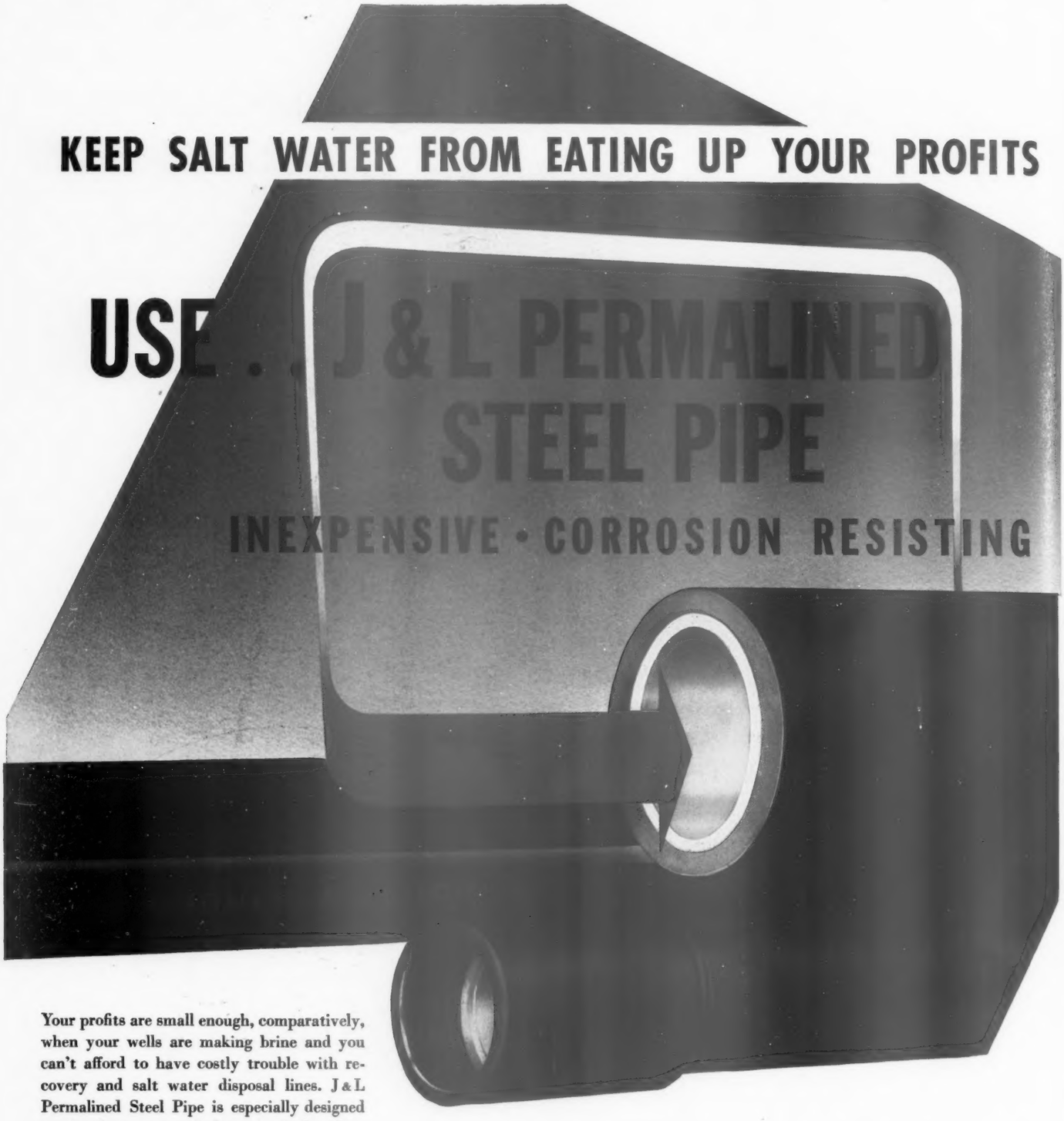

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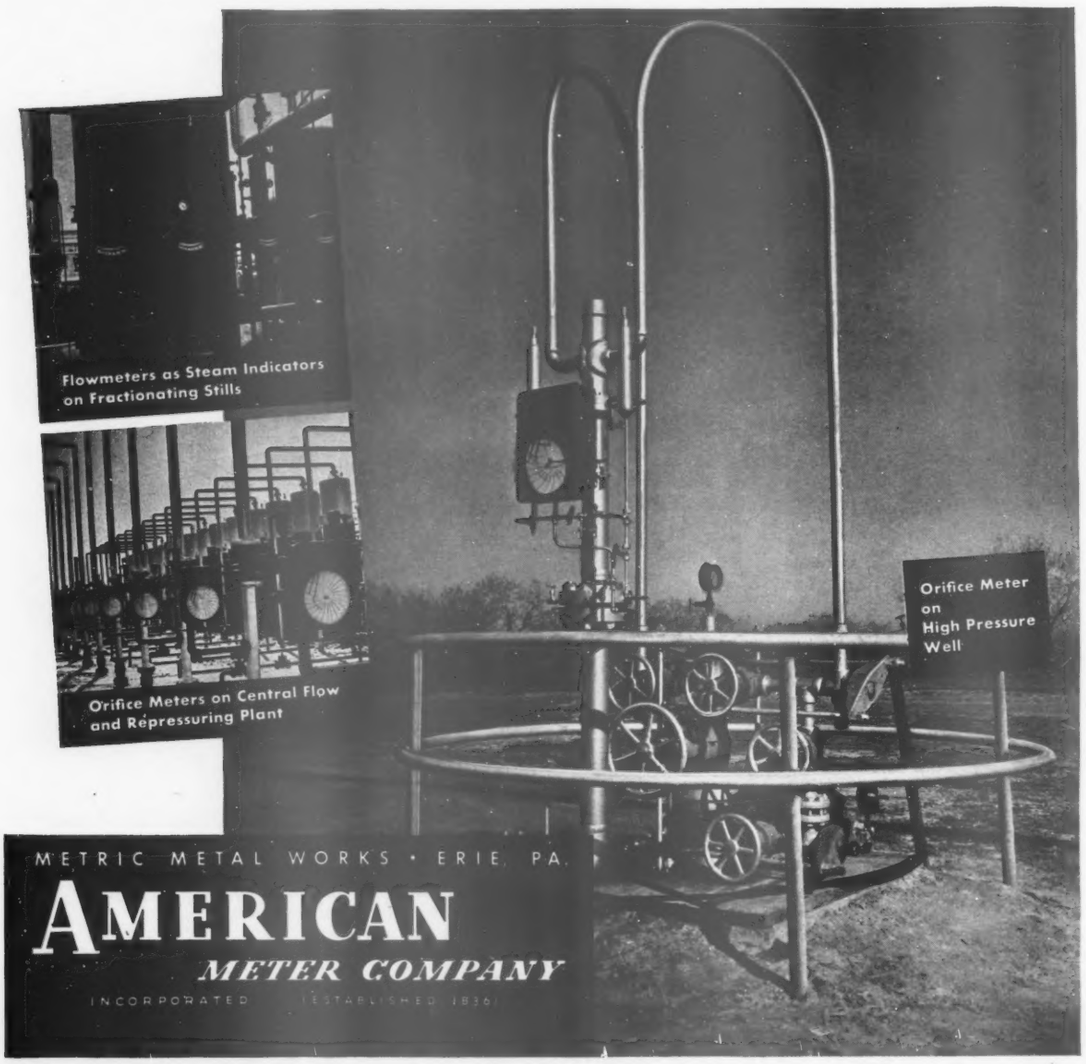
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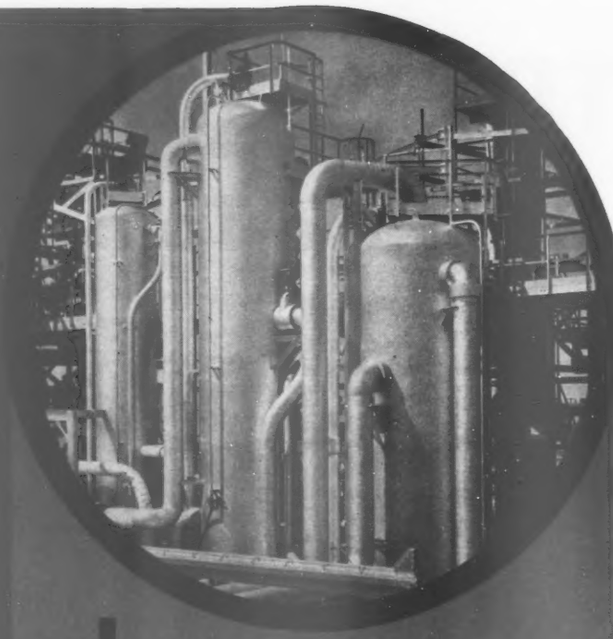

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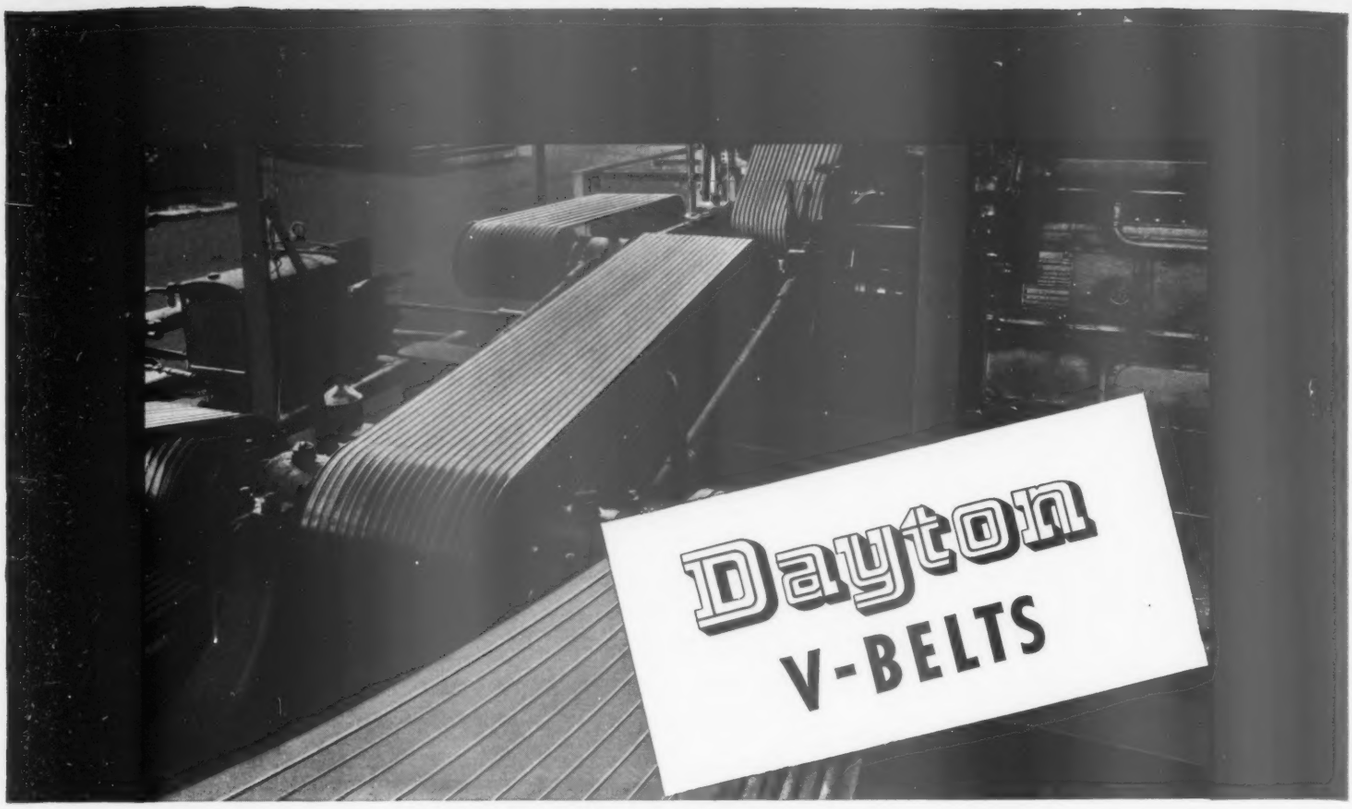

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When equipment is subjected to hard service and unusual conditions, long-lived Dayton V-Belts are first choice for their rugged durability and resistance to wear. Dayton V-Belts are exceptionally adapted for drilling rigs, pumping units, slush pumps, central powers, Diesel units and compressors in drilling and pumping operations; also, for all classes of machinery in the refining branch of the industry.

V-Belts by Dayton and prompt service by Continental make an unbeatable combination to solve any transmission problem.

THE CONTINENTAL SUPPLY COMPANY

GENERAL OFFICES: DALLAS, TEXAS

ESSEMER Horsepower at Jal

vertical power units . . . they like their ample reserve power, their compactness that saves housing, foundation and transportation costs, their economical fuel systems, and their many construction features that make them long-wear, low-maintenance, heavy-duty equipment.

Whatever *your* task, there's a C-B engine or compressor for it . . . Write or call the nearest Cooper-Bessemer office for facts!

— BRANCHES —

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Investment Bldg., Washington, D. C.
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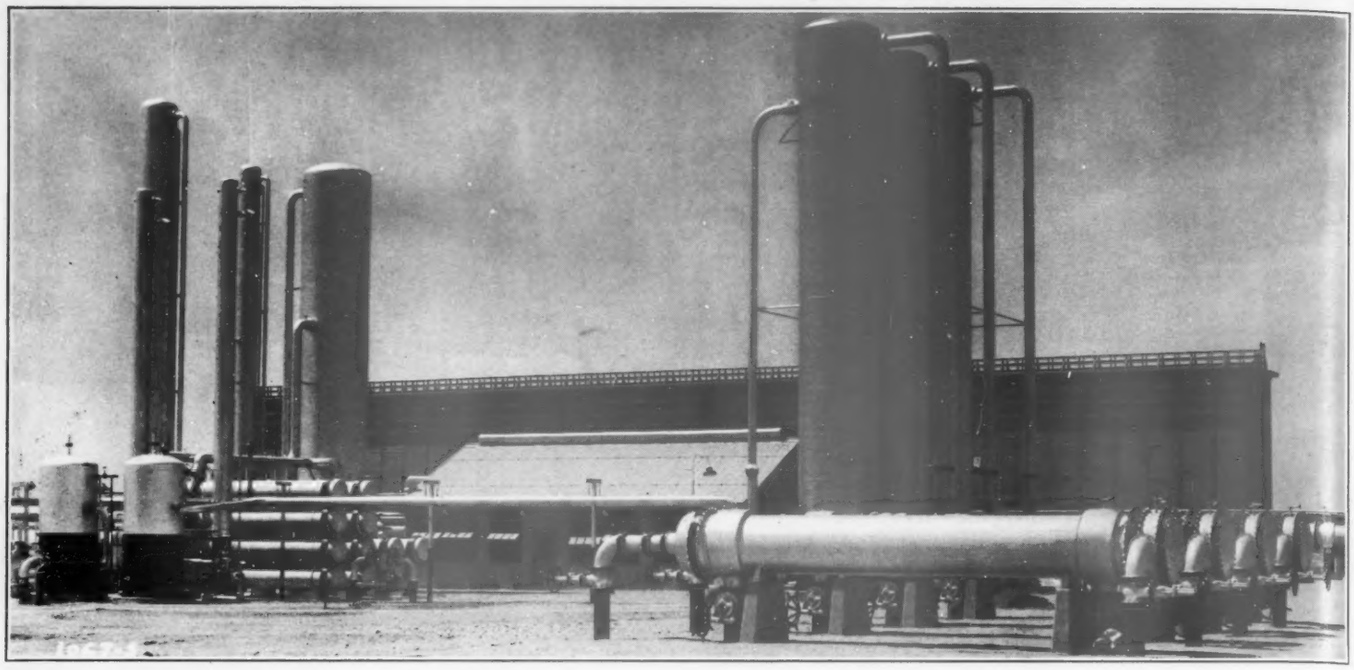
201 E. 1st St., Tulsa, Okla.
1501 Arcade Bldg., St. Louis, Missouri
Box 454, Greggton, Texas
Box 1586, Pampa, Texas



Process Area of New El Paso Absorption Plant at Jal, N. M.

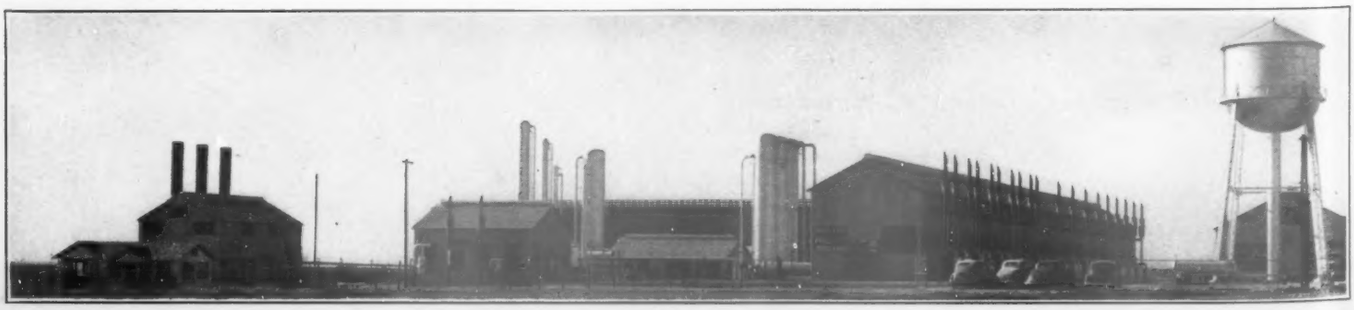
Repeat Business

Once again we have furnished a plant to
THE EL PASO NATURAL GAS COMPANY

Contract for plant design and engineering work, as well as all processing equipment and fabricated material for the new Gasoline Plant at Jal, N. M., was awarded to us. We greatly appreciate the confidence placed in us, and are proud of the part we had in this very large Low Pressure Gasoline Absorption Plant.

The STEARNS-ROGER Mfg. Company
Denver, Colorado

PARKHILL-WADE
Los Angeles, California



A FORD ON YOUR JOB

means money in your pocket

There are a number of ways to look at truck economy. First cost is an item. Operating and up-keep costs are important. But there's still another angle that deserves sharp examination. It's this:

Ford units are fast, easy to handle, sturdily built. You can haul a big load swiftly, keep high speeds when necessary, and thus, by cutting down the amount of time spent on a given job, you can keep the unit profitably at work more hours per day. That means money in your pocket. Try a Ford on your job. Ask any Ford dealer about an "on-the-job" test with your own driver and your own loads.

FORD TRUCKS

FORD MOTOR COMPANY, BUILDERS OF FORD V-8 AND MERCURY CARS, FORD TRUCKS, COMMERCIAL CARS, STATION WAGONS AND TRANSIT BUSES

Visit the new Ford Expositions at the two Fairs, New York and San Francisco, 1940

Ford

HOUDRY

Provides...

EXPERIENCE—PLUS

HOUDRY PROVIDES EXPERIENCE—PLUS

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Commercial Operating Units and Untiring Research

There are in operation and under construction today 16 Houdry Units with a combined daily catalytic cracking capacity of over 175,000 Barrels. To produce these successful units required over ten years of research work and millions in expenditures. The research and expenditures still go on in a new laboratory, built for and devoted to producing new catalysts, new processes, new products. To a Houdry Licensee this means operation without experimentation—assurance of meeting the market with salable products.

Photograph shows the new Houdry Research Laboratory consisting of Research, Physical Test, and Development buildings.

Licensing Agents for the Houdry Catalytic Cracking Process

E. B. BADGER & SONS CO.

Boston, Mass.

New York Philadelphia San Francisco London Paris

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Engineers and Contractors
for Petroleum Distillation and Refinery Equipment

FISHER *Automatic* CONTROLLERS

Specified by HUDSON ENGINEERING CO. and HUNT OIL COMPANY

Above: Fisher Automatic Controllers on still and rerun still of Hunt Oil Company's new recycling plant.
Below: Fisher Level-Trols and Diaphragm Motor Valves maintain accurate liquid levels in gasoline scrubbers in new recycling plant.

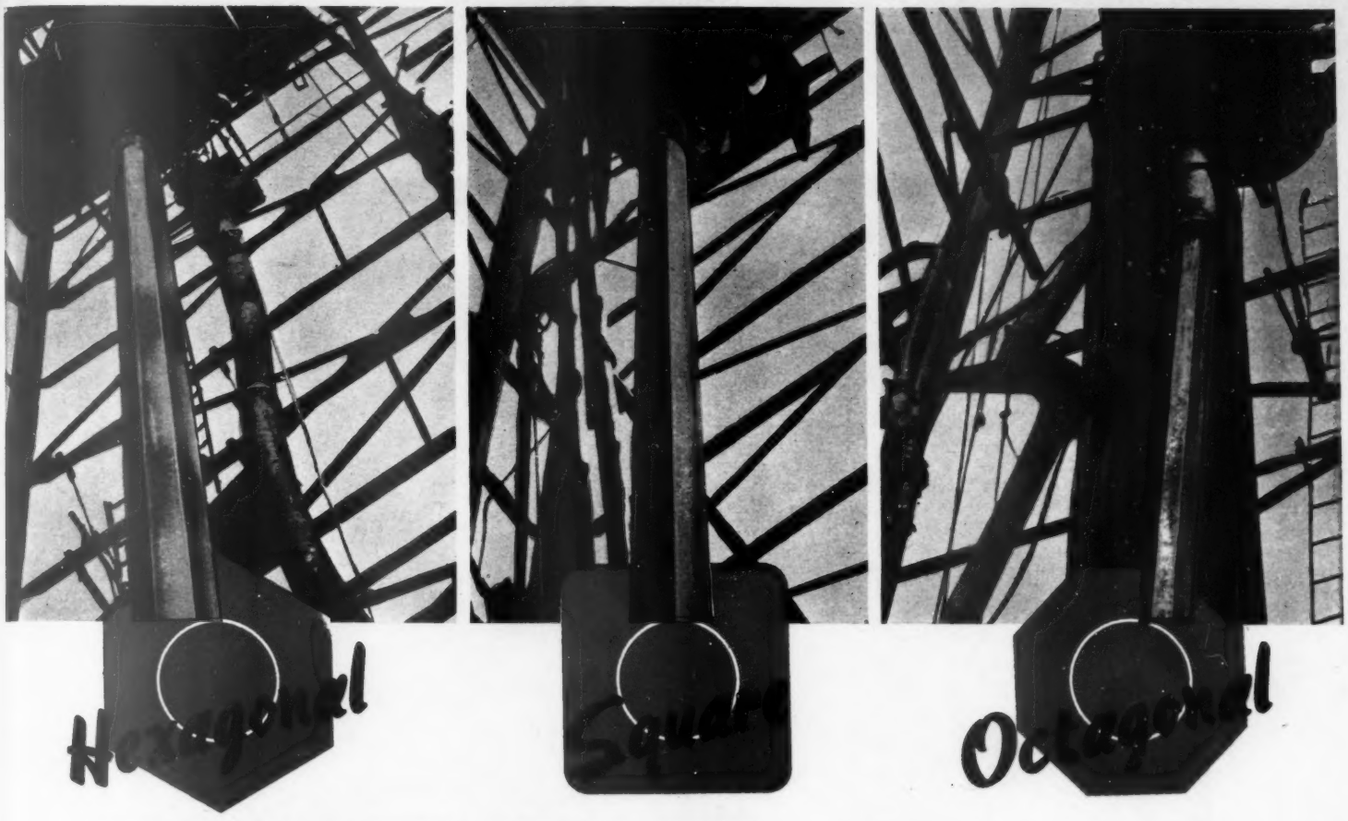
New RECYCLING PLANT AT PALESTINE, TEXAS

COMPLETELY FISHER EQUIPPED

Here's more PROOF OF PREFERENCE for FISHER Automatic Controllers! This rapidly growing PREFERENCE FOR FISHER exclusively is largely due to the fact that today's highly specialized processes demand SPECIAL control valves. Petroleum engineers and plant men know that every FISHER Automatic Controller they buy is individually built and tested to meet their exact operating conditions. Call in a trained and experienced FISHER Sales Engineer. He will take full responsibility for recommending the correct types and sizes of control equipment to meet your particular service requirements.

FISHER GOVERNOR COMPANY

219 FISHER BUILDING, MARSHALLTOWN, IOWA



BAASH-ROSS KELLYS

Made True in the Shop to
STAY TRUE IN SERVICE

You really find out how good BAASH-ROSS Kellys are after you have had one or more of them in service for months, or years. It is then—when you know from your own experience how they resist stresses that would put a permanent kink in an ordinary bar, how they rotate smoothly at all speeds, how the heat-treated, accurately aligned joints stand up through thousands of break-outs, and how the driving surfaces resist abrasion and wear — that you fully appreciate the importance of these specifications which govern the manufacturing, metallurgy and heat treatment of all BAASH-ROSS Forged Upset Kellys:

The Right Steel—Restricted analysis-range, fine grained alloy steels (such as S.A.E. X-3140 nickel chromium steel and S.A.E. 4140 chromium-molybdenum steel) that are economical, readily available and of proved suitability for this service.

Normalizing Heat Treatment Over the Entire Length of the Bar in one operation after forging removes forging and straightening strains, and produces the required physical properties uniformly throughout the Kelly.

Precision Alignment of Joints—The alignment of the projected axis of the threaded joints of BAASH-ROSS Forged Upset Kellys is held to within ½-inch in 40 feet, checked by surveying from joint to joint.

Straight, Concentric Bore and uniform wall thickness, proved by exacting tests and checked by surveying, insure balance in rotation at all speeds.

Additional Heat Treatment of Joint Ends, in addition to the full-length normalizing, develops the maximum toughness for prolonged service life of threads.

Investigate values before you buy Kellys. Check specifications and field performance. And be sure that BAASH-ROSS Kellys are on the list.

COMPLETE ENGINEERING AND METALLURGICAL DATA COVERING BAASH-ROSS FORGED UPSET KELLYS WILL BE SENT ON REQUEST

BAASH ROSS
TOOL COMPANY
OIL WELL TOOLS · SPECIALTIES
LOS ANGELES
HOUSTON · NEW YORK

"Welding takes less time when the boss buys MIDWEST FITTINGS"

"The boss says us pipe welders are a big 'headache' to the Estimating Department. On one job we beat the estimated time and he makes real money . . . but on the next job like it (and for no reason), we run way over the time.

"The reason is there, but he hasn't seen it—yet. We cut the welding time and save money whenever he gives us Midwest Welding Ells. The dimensions of these Midwest fittings are always 'right on the nose' . . . and so is the angle. We can cut all our pipe in advance according to the drawings and know it will go in place easily and quickly without any 'phenageling'.

"Another thing we like about the Midwest Ells is that they are really round . . . and the wall thickness is the same all around. And don't let anyone tell you this doesn't save time and make better welds."

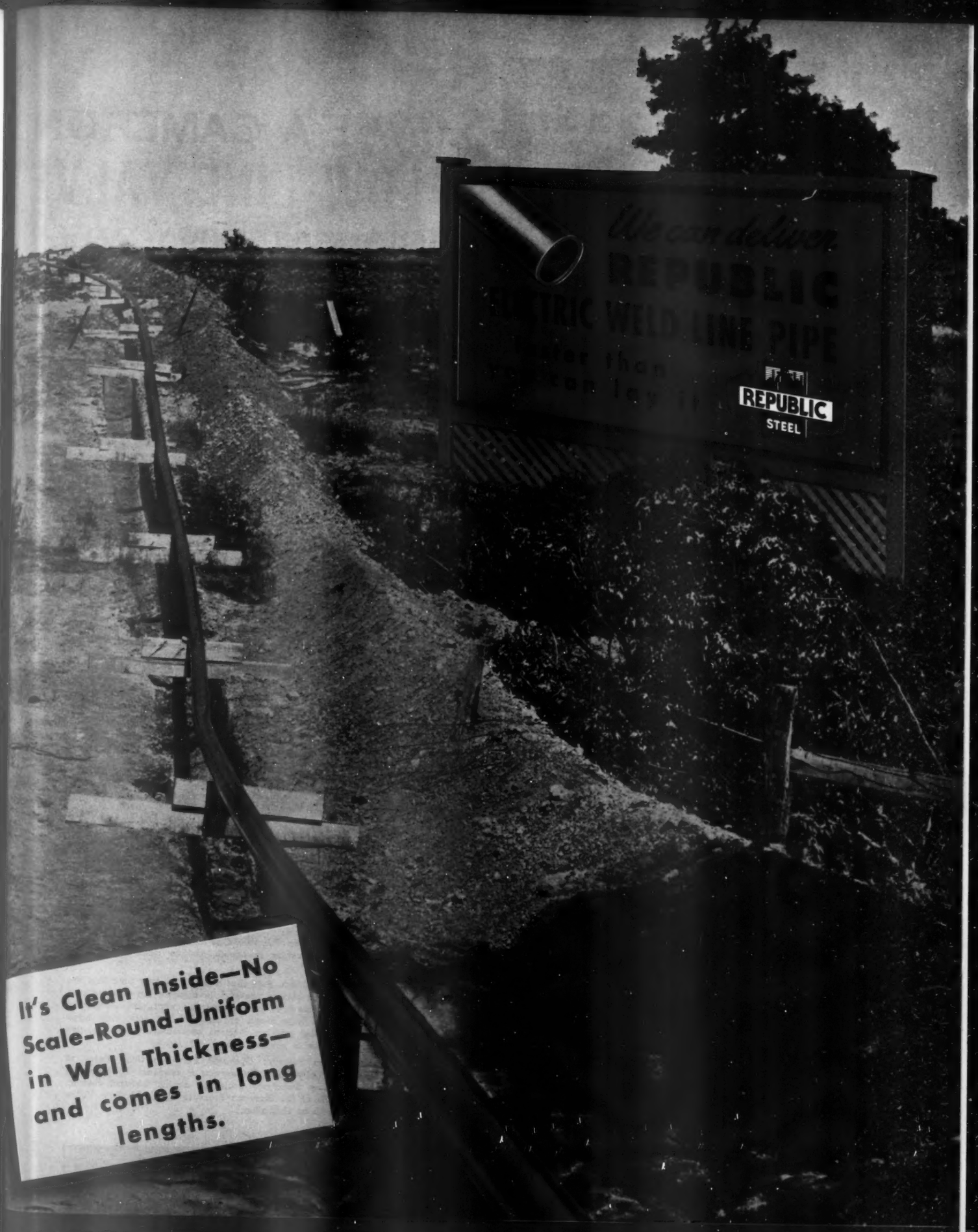
You, too, will appreciate the many advantages of Midwest Welding Fittings. Specify them on your next welded piping job.

MIDWEST WELDING FITTINGS IMPROVE PIPING DESIGN AND REDUCE COSTS

MIDWEST PIPING & SUPPLY CO., Inc.

Main Office: 1450 S. Second St., St. Louis, Mo. *Plants:* St. Louis, Passaic (N. J.) and Los Angeles

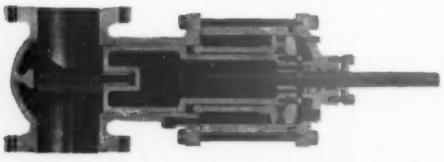
Sales Offices: Chicago—946 Marquette Building • Houston—2306 Shakespeare Road • Los Angeles—520 Anderson St.
San Francisco—426 Call Building • New York—(Eastern Div.) 30 Church St. • Tulsa—533 Mayo Building



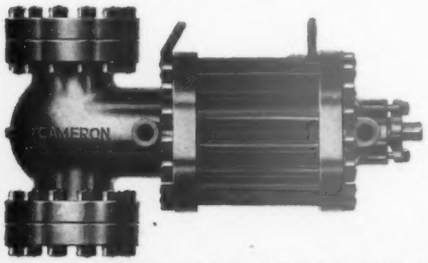
REPUBLIC STEEL CORPORATION

For SPEED
POSITIVE CLOSURE
LEAK-PROOF SEAL

ONLY A CAMERON FLOW-LINE VALVE CAN MATCH YOUR *"SDA"*



When fluid pressure is applied to closing side of ram-gate operating piston, ram-gate moves swiftly across horizontal bore and seals instantly on the single seat formed integrally with self-cleaining gate cavity.



Exterior view of Cameron Pressure Operated Gate Valve. Note closing and opening ports which require a very simple manifold. Control is by means of a 4-way control valve. Operation is instantaneous and exceedingly positive.

With a Cameron Type SDA Pressure Operated Blowout Preventer on your well, you enjoy the protection of the world's fastest, most positive and dependable unit for sealing the annular space.

But even an "SDA" preventer can seal only the annular space. There remains an equally vital opening to be controlled in event of a vicious well blow . . . the flowline outlet.

At this point, *only* a Cameron Pressure Operated Flow-line Gate Valve can match your Type SDA Preventer in speed, positive closure and leak-proof seal.

In the cross-section view at left, note that a single seat is built into the self-cleaning gate cavity. When closing pressure is applied, the massive ram gate with its *self-feeding* packing moves against the seat and effects an instant closure. Regardless of how rough or corroded the seat may have become, the resilient self-feeding packing element automatically compensates for all inequalities and insures a positive seal.

The cost of a Cameron Pressure Operated Flow-line Gate Valve is negligible, considering the vitally important service it renders. To operators who feel that their rigs deserve the utmost protection against blowout destruction, full and complete details of the Cameron Pressure Operated Gate Valve will gladly be forwarded without obligation.

CAMERON IRON WORKS, INC.

711 MILBY ST. HOUSTON, TEXAS

Export: 74 Trinity Place, New York, N. Y.
California Distributor: The Howard Supply Co., Los Angeles
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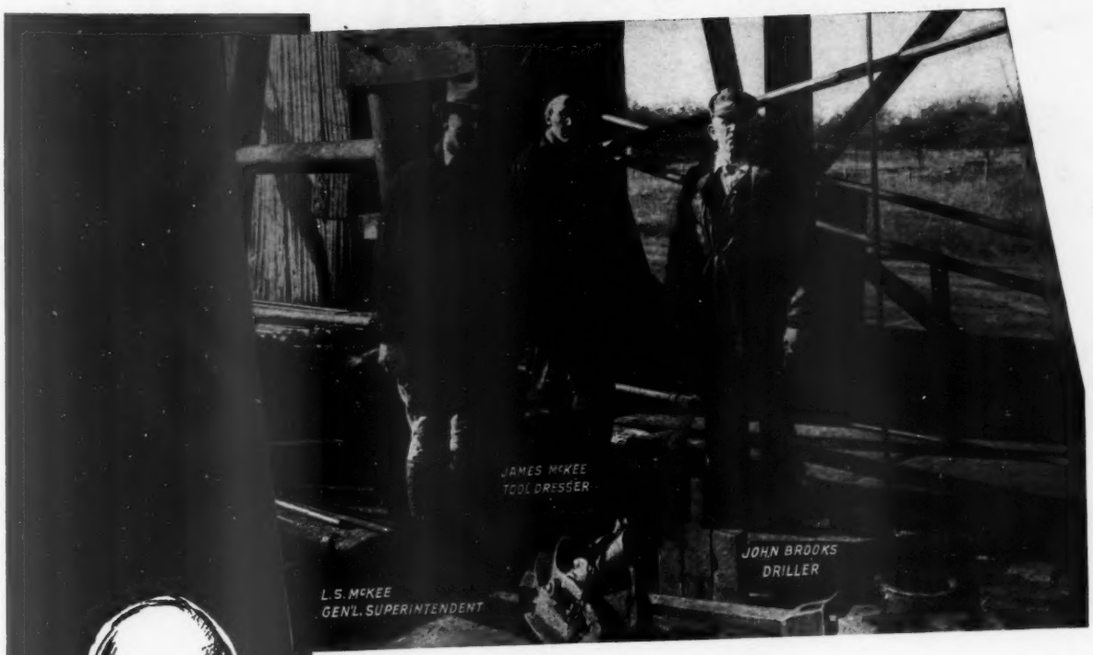

BEN FRANKLIN NEVER HEARD OF CABLE TOOLS

...But he knew his Economics!

"A penny saved is a penny earned," said Ben, and he always looked for a place to save it. There are *many* places where the cable system of drilling gives *you* a definite opportunity to *save* money.

No operator can afford to be passive where Economy is concerned. There are other considerations, of course, but in the end it's the figures on the profit-and-loss columns that count.

If Economy is important to you, consider cable-tools in your drilling program. And remember to specify SPANG CABLE TOOLS.

SPANG & COMPANY · Butler, Pa.

SPANG

THE YARDSTICK OF CABLE-TOOL VALUE

Spang & Company occupy a position of undisputed leadership in the cable-tool industry. Today, Spang Cable Tools are the yardstick by which the value of cable tools are measured. Next time, Specify SPANG!

SPANG

THE BIGGEST CABLE

NAME IN TOOLS

BAROID-AQUAGEL MUDS MINIMIZE DRILLING DIFFICULTIES

Baroid Service Engineer making mud recommendations to driller

Baroid Service Engineer running tests on mud at a well

When moderately high mud weights are needed, if a native mud is used, it is generally necessary to work close to the upper limit of viscosity; on the other hand, when the same weight mud is attained by means of a BAROID-AQUAGEL mud, it is possible to work at as low a viscosity as the operator desires. Consequently, mud making formations which tend to increase viscosity, can be drilled through, when using BAROID-AQUAGEL mud, with minimum difficulty from thickened mud.

Moreover, AQUAGEL, being highly colloidal, is much more reactive to chemical deflocculation, thus allowing the mud to be maintained in a satisfactory condition, by chemical treatment alone, over a long period of drilling.

Drilling muds, properly selected and controlled, assure faster, safer, more economical drilling. Baroid Service Engineers with laboratory equipped cars, are available in or near all active oil fields to help with your mud problems.

BAROID PRODUCTS

BAROID and COLOX–Extra Heavy Drilling Muds. • AQUAGEL–Trouble-Proof Colloidal Drilling Mud. • STABILITE–An Improved Chemical Mud Thinner. • BAROCO–An Economical, Salt Water-Resisting Drilling Clay. • FIBROTEX–For Preventing or Regaining Lost Circulation. • AQUAGEL for CEMENT–For Setting Casing and Restoring Lost Circulation. • SMENTOX–For Reconditioning Cement-Cut Muds. • ZEOGEL–Special Clay to be Used as a Suspending Agent When Salt or Salt Water is Encountered. • TESTING EQUIPMENT–For Drilling Mud Analysis and Control. BAROID WELL-LOGGING SERVICE—Formation Information Through Mud Analysis.

BAROID SALES DIVISION

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BAROID OIL WELL DRILLING MUD SERVICE

Baroid Products and Service Engineers are available in all active oil fields of the U.S.A.

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1500 P.S.I.
CLOSE-CLEARANCE
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NEW PLANT IN LONG LAKE FIELD INSTALLS INGERSOLL-RAND LVG'S

● Two 650 hp. Type LVG gas-engine compressors are the heart of this 50,000,000 cfd. plant. Gas enters the double-acting steel compressor cylinders at 1350 to 1450 lbs. and is discharged at 2150 lbs.

The LVG is the latest addition to the line of Ingersoll-Rand gas engine compressors — *the original line* of V-angle design—the line noted for reliability, economy, accessibility, ease of installation and economy of floor space and foundations.

4-cycle LVG's are the compressor choice in three of the most recently built recycling plants.

Write today for Catalog 3073 or call for an Ingersoll-Rand oil field representative.

Other I-R Products for the Oil Industry include: Cameron Pumps, Gas and Oil Engines, Air and Gas Compressors, Condensers, Air Tools, Etc.

Atlanta, Birmingham, Boston, Buffalo, Butte, Chicago, Cincinnati, Cleveland, Dallas, Denver, Detroit, Duluth, El Paso, Hartford, Houston, Kansas City, Knoxville, Los Angeles, Newark, New Orleans, New York, Philadelphia, Picher, Pittsburgh, Pottsville, Salt Lake City, San Francisco, Scranton, Seattle, St. Louis, St. Paul, Tulsa, Washington

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Lane-Wells pioneered a new technique of well control for the petroleum industry with the development of the Gun Perforator. *Selective completion* by Gun Perforation opened up production at depths,in thin sands through cemented casing, under conditions that would have been impossible only a few years ago. *Plug-back operations* by Gun Perforation make available world reserves of heretofore unrecoverable oil. Positive control of gas/oil ratio by Gun Perforation assures efficient production and conserves natural resources.

Today Lane-Wells Gun Perforator in combination with Lane-Wells Electrolog and Lane-Wells Survey Services gives you modern completion and production methods that enable you to control your well against almost any eventuality. In short—*controlled oil production at lower cost.* More than 2500 oil companies can testify, "It pays to discuss your completion and production problems with Lane-Wells.

LANE WELLS
Everywhere

From Oil Well to Consumer . . . from Maine to Texas

"SERVICE IS OUR MIDDLE NAME!"

Cities Service Oil Companies are engaged in every phase of the oil business — producing, refining, transporting, distributing and marketing. Seven strategically located, efficient refineries supply thousands of Cities Service dealers with petroleum products the equal of any made today, and superior to most. Expert chemists are ever watchful that each product meets the rigid standards and specifications that Cities Service demands.

Cities Service products range all the way from those which supply ordinary automotive needs to heavy industrial lubricants. The courteous, helpful efficiency of more than 16,000 Cities Service gasolene and motor oil dealers in 38 states has established the truth of the promise—"Service is our middle name."

The vast experience of Cities Service in every phase of the oil business makes Cities Service engineers a natural choice for consultation on your industrial lubrication problems. The nearest Cities Service office will be glad to put you in touch with the Free Lubrication Engineers' Service—without obligation, of course.

For 14 years, the Cities Service Concert has delighted millions of listeners on Friday evenings. It stars lovely Lucille Manners (shown above), Ross Graham, and the Cities Service Singers and Orchestra, under the direction of Frank Black, over the NBC Red Network.

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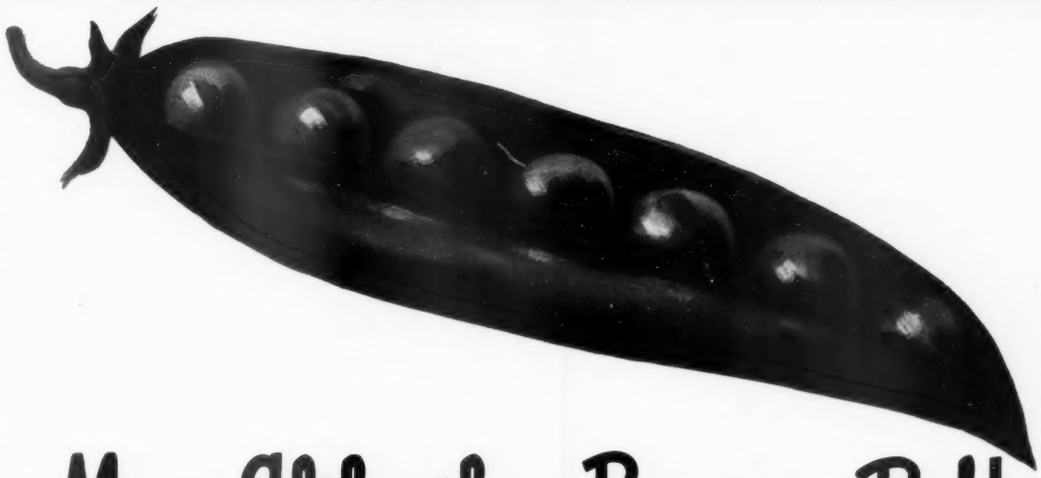
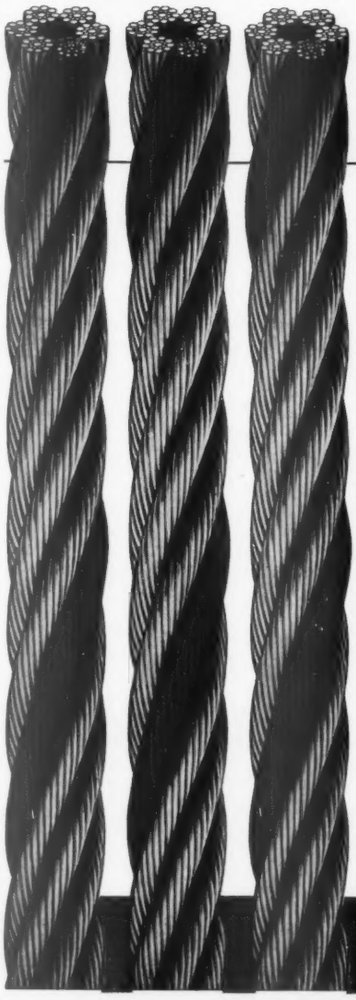


More Alike than Peas in a Pod!



American Cable TRU-LAY *Preformed* Rotary Drilling Lines

Uniform in Quality—is a universally acknowledged characteristic of American Cable's Wire Ropes.

Uniform in Service. Being uniform in quality American Cable's Ropes are naturally uniform in service. When American Cable introduced TRU-LAY Preformed, in 1924, we gave all industry a rope that far outlasted ordinary non-preformed, our own make included. Here, too, in increased service, is seen uniformity for when one TRU-LAY Preformed Rope does a job unusually well, the second or twenty-second TRU-LAY Rope will do equally well.

Uniform in Safety. TRU-LAY Preformed is a safer rope. Its crown wires lie flat and in place so that there is less danger of their wickering out and jabbing workmen's hands, which often causes blood-poisoning. TRU-LAY handles easier and faster, resists kinking and whipping, spools on drums better and rotates less in sheave grooves. TRU-LAY requires no seizing when cut and will not fly apart when broken. Specify American Cable's TRU-LAY Preformed for your next line.

BUY ACCO QUALITY *whether for American Cable Wire Lines—American Welded and Weldless Chain—Ford Chain Blocks—Page Wire Fence—Page Welding Wire—Reading-Pratt & Cady Valves—or any of the other 137 ACCO Quality Products.*

AMERICAN CABLE DIVISION • **WILKES-BARRE, PENNSYLVANIA**

Branch Offices and Distributors in All Oil Field Centers

Green Signifies Full Speed Ahead for National Preparedness.

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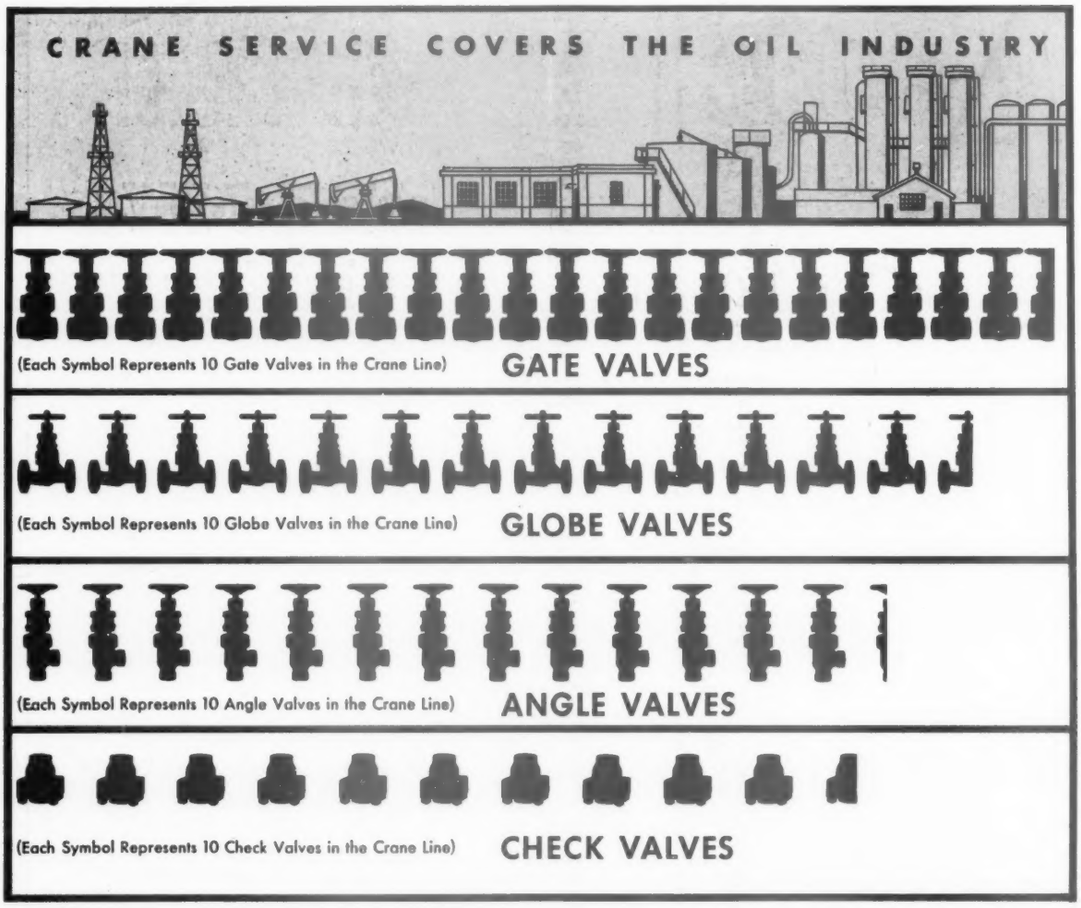
HAVE FLOW-CONTROL PROBLEMS?

You Can Easily Solve Them With Valves of the Proper Type, Size, and Materials Required from the World's Greatest Line of Piping Equipment


CRANE SERVICE COVERS THE OIL INDUSTRY
(Each Symbol Represents 10 Gate Valves in the Crane Line)
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GLOBE VALVES
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Preventive Maintenance Stops Waste

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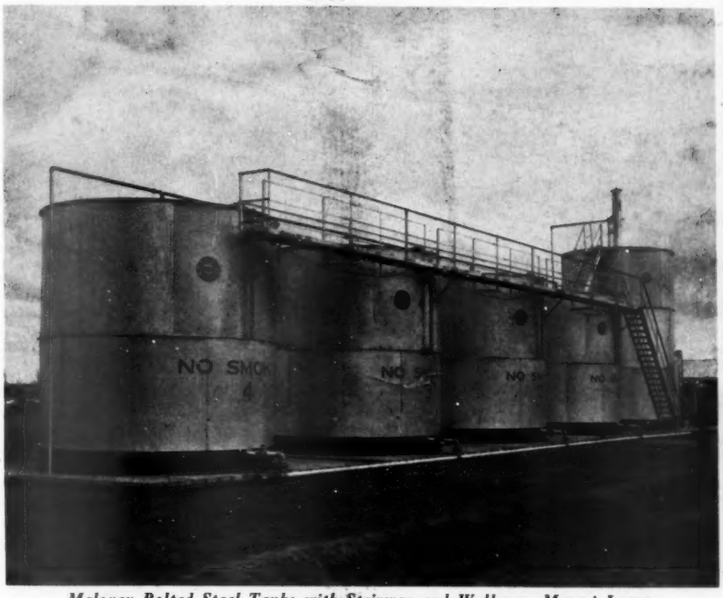
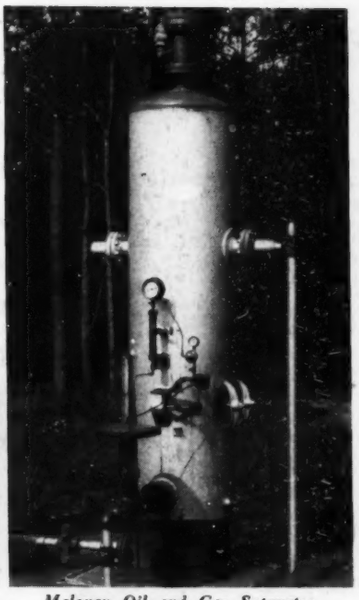


Maloney Bolted Steel Tanks with Stairway and Walkway, Moresi Lease, Anse La Butte South Louisiana property of Iberia Petroleum Corporation.



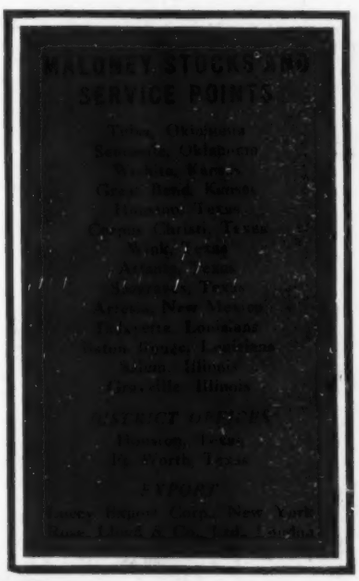
Maloney Oil and Gas Separator, 500-lb. High-Pressure Type.

WHEN YOU NEED TANKS AND SEPARATORS QUICK

When you need tanks or separators *quick*—call on MALONEY'S nearest service branch and warehouse. Our branches are strategically located to serve all fields in the Mid-Continent and Illinois areas. They carry adequate stocks of MALONEY Standard and Galvanized Tanks, Stairways, Walkways and Separators, and are ready at all times to give prompt service.

MALONEY erection crews have been trained in our own organization, are experienced and capable, perform their work rapidly and efficiently. Tanks are erected on level, solid grades. Batteries are lined up with accuracy. Tanks will be found tight and firm, walkways level and rigid. High and low pressure separators are set on foundations of correct size and strength.

MALONEY Tanks conform to A.P.I. Specifications and are offered in 100 to 10,000-bbl. capacities. A.P.I. Stairways and Walkways, painted or galvanized, are adaptable for any field requirement.



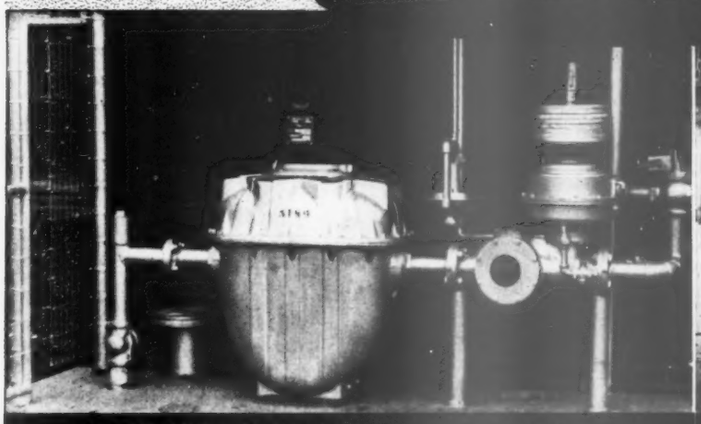
MALONEY TANK MFG. COMPANY

38 N. Peoria — Tulsa, Oklahoma

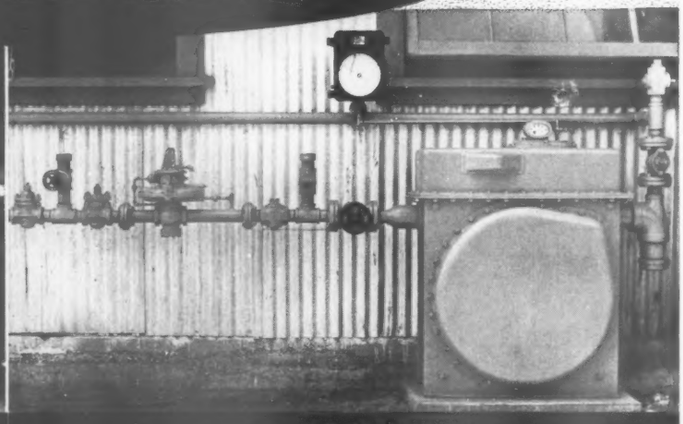
MALONEY

Precision Measurement and Control for Industrial Gas Loads

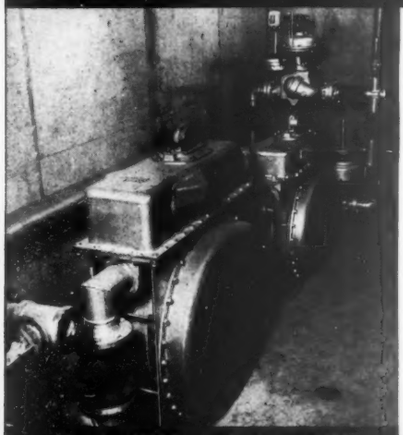
EMCO METERS AND REGULATORS
NORDSTROM LUBRICATED PLUG VALVES



Industrial Gas Metering and Regulating Installation Using EMCO Low Pressure Balanced Valve Regulator, EMCO No. 4 Meter equipped with EMCORECTOR, and NORDSTROM Valves.



EMCO "1001" Regulator and NORDSTROM Valves on Industrial Line with EMCO Pressed Steel Meter.



Two-stage EMCO Pressure Regulation and EMCO Pressed Steel Meters in California Industrial Plant. Lines are NORDSTROM Valve Controlled.

OF industry's three most widely used types of fuel —gas, coal and oil—gas alone offers unique savings in addition to its inherent operating advantages and efficiencies.

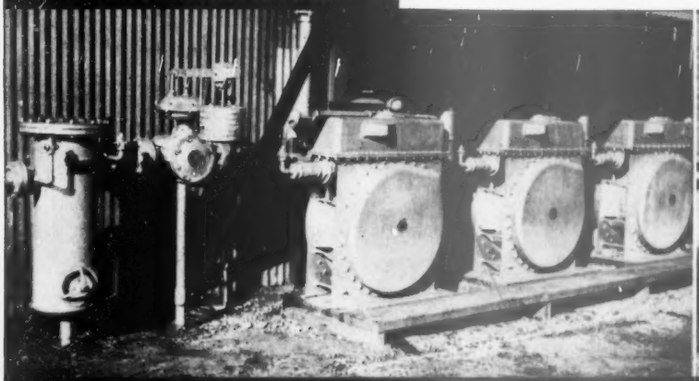
The efficient utilization of this simple, easy method of fuel supply is dependent upon metering and control equipment developed for this service itself. EMCO Meters and Regulators provide the necessary accuracy, ruggedness and simplicity. They have progressed hand in hand with the growth of industrial gas consumption.

PITTSBURGH EQUITABLE METER COMPANY
MERCO NORDSTROM VALVE CO.

NEW YORK · BUFFALO · PHILADELPHIA · KANSAS CITY · TULSA · LOS ANGELES · DES MOINES · CHICAGO · COLUMBIA · MEMPHIS · OAKLAND · HOUSTON

Main Offices - PITTSBURGH, PA.

Midwest Manufacturing Plant Utilizing EMCO Large Capacity Meter with EMCO Low Pressure Balanced Valve Regulator and NORDSTROM Valves.



Three EMCO Pressed Steel Meters and an EMCO High Pressure Balanced Valve Regulator Accurately Measuring and Controlling over 7,000,000 Cubic Feet of Gas per Month in a Felt Manufacturing Plant.

EMCO No. 4 Large Capacity Meter with Combined Record Gauge Measuring Gas Controlled by EMCO Low Pressure Balanced Valve Regulator and NORDSTROM Valves.

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